WQ
C563o
1842

NATIONAL LIBRARY OF MEDICINE

Bethesda, Maryland

OBSERVATIONS

ON

THE DISEASES

INCIDENT TO

PREGNANCY AND CHILDBED.

BY FLEETWOOD CHURCHILL, M.D.,

Licentiate of the King and Queen's College of Physicians in Ireland; Physician to the Western Lying-in Hospital, and to the Adelaide Hospital; Lecturer on Midwifery and Diseases of Women and Children, in the Richmond Hospital School of Medicine,
etc. etc.

PHILADELPHIA:
HASWELL AND JOHNSON,
NINTH AND CHESTNUT.
1842.

WQ
C 5630
1842
C.1

PREFACE.

In the preface of a former work, "On the Diseases of Females," I stated, that if the profession approved of the method and arrangement therein adopted, it was my intention to publish a second volume, "On the Diseases of Pregnancy and Childbed," upon the same plan.

After the flattering and very gratifying manner in which the first volume was received, I could not hesitate a moment in preparing for the fulfilment of my promise; and the present volume is the result of my researches.

In it I have strictly followed the arrangement of the former work, giving a condensed statement in the text, with such confirmations and amplifications as have appeared desirable, in notes—with references to numerous sources of information. I may add, that almost all these references have been made by myself to the original authorities, and therefore, I trust, will be found correct.

I fear, that, notwithstanding all the care I have taken, many deficiencies will still be found; for the authorities are so numerous, that it is not easy to ascertain them all. I must therefore entreat my reader's indulgence for these and other defects.

I have also to apologise for certain irregularities of arrangement—(such, for instance, as including Rupture of the Uterus occurring

during gestation, among Diseases of Childbed,)—which could not have been avoided, without inconveniently dividing the subjects, or leaving certain chapters incomplete.

I have debated long with myself, whether it would be better to translate all the French quotations, or none of them, and the result has been the adoption of a middle course. When the quotation possesses peculiar and definite interest, or refers to cases, or success in practice, I have thought it better to quote the original, the other extracts I have translated.

Such as it is, I commit this work to the Profession, having no doubt of their kindness and consideration, and earnestly hoping that it may prove useful in facilitating the acquisition of a thorough knowledge of this class of diseases.

THE AUTHOR.

CONTENTS.

DISEASES INCIDENT TO PREGNANCY.

PAGE.

CHAPTER I.—On the Local and Constitutional Consequences of Pregnancy, . 5
II.—On the General Management of Pregnant Females, . . . 15

SECTION I.—DISEASES OF THE GENITAL ORGANS IN PREGNANT FEMALES.

CHAPTER I.—Œdema of the Labia, ... 19
II.—Pruritus of the Vulva, ... 22
III.—Vaginal Leucorrhœa, ... 23
IV.—Menstruation during Pregnancy, ... 24
V.—Discharge of Watery Fluid from the Vagina, ... 29
VI.—Dropsy of the Amnion, ... 32
VII.—Rheumatism of the Uterus, ... 38
VIII.—Hysteritis, ... 43

SECTION II.—DISORDERS FROM SYMPATHETIC IRRITATION.

Disorders of the Chylopoietic Viscera.

CHAPTER I.—Toothache, ... 48
II.—Salivation, ... 51
III.—Fastidious Taste, and Capricious Appetite, ... 54
IV.—Nausea and Vomiting, ... 59
V.—Cardialgia and Pyrosis, ... 71
VI.—Cramp of the Stomach and Duodenum, ... 73
VII.—Hematemesis, ... 74
VIII.—Constipation, ... 75
IX.—Diarrhœa, ... 79
X.—Jaundice, ... 82

Disorders of the Circulating System.

CHAPTER I.—Palpitation of the Heart, ... 85
II.—Fainting, ... 88

Disorders of the Respiratory System.

CHAPTER I.—Dyspnœa, ... 91
II.—Cough, ... 93
III.—Hemoptysis, ... 96

Disorders of the Nervous System and Senses.

		PAGE.
CHAPTER I.	Sleeplessness,	98
II.	Hypochondriasis,	100
III.	Headache,	103
IV.	Convulsions,	106
V.	Nervous Affections of the Eyes,	125

Disorders of the Mammæ.

CHAPTER I.	Mastodynia,	128

SECTION III.—DISORDERS FROM MECHANICAL PRESSURE.

CHAPTER I.	Hernia,	130
II.	Piles,	133
III.	Spasm of Ureters,	137
IV.	Incontinence of Urine,	138
V.	Dysuria, or Retention of Urine,	140
VI.	Cramps and Irregular Pains,	141
VII.	Varicose Veins,	145
VIII.	Œdema. Anasarca,	147
IX.	Ascites. Hydrothorax,	150

DISEASES INCIDENT TO CHILDBED.

CHAPTER I.	On Convalescence after Parturition,	155
II.	On the Management of Females during Convalescence,	162
III.	On the Variations from Ordinary Convalescence,	167
IV.	Sanguineous Tumour of the Labia,	174
V.	Inflammation and Sloughing of the Vagina,	180
VI.	Puerperal Fever,	183
VII.	Rupture of the Uterus and Vagina,	229
VIII.	Vesico-Vaginal and Recto-Vaginal Fistula,	246
IX.	Laceration of the Perineum,	257
X.	Phlegmasia Dolens,	265
XI.	Puerperal Mania,	274
XII.	Ephemeral Fever, or Weid,	280
XIII.	Miliary Fever,	282
XIV.	Sore Nipples,	285
XV.	Inflammation and Abscess of the Breast,	287

PART I.

OBSERVATIONS

ON THE

DISEASES INCIDENT TO PREGNANCY.

The investigation of the disorders and diseases of pregnancy upon which we are about to enter, will be much facilitated if we first consider, very briefly, some of the local changes and constitutional sympathies which are the result of conception and utero-gestation: to which may be added some general instructions as to the management of pregnant females.

CHAPTER I.

ON THE LOCAL AND CONSTITUTIONAL CONSEQUENCES OF PREGNANCY.

"It is a popular observation," says Dr. Denman,[1] "that those women are less subject to abortion, and ultimately fare better, who have such symptoms as generally attend pregnancy, than those who are exempt from them. The state of pregnancy is then an *altered*, but cannot with propriety be termed a *morbid* state. But if the term *disease* be used on this occasion, with the intention of giving

[1] Introduction to Midwifery, 7th edit. p. 144.

a more intelligible explanation of the temporary complaints to which women are then liable, or to denote their irregularity or an excessive degree of them, it may be retained."

Pregnancy, then, may be strictly considered as a physiological state, but as one bordering so closely upon the pathological, that it is sometimes difficult to point out the boundary between them; and not unfrequently this boundary is palpably transgressed, in several organs or in their functions.

In the present chapter, the changes which are induced by gestation, considered as an "altered," but not "morbid" process, will be enumerated, in order that we may more distinctly appreciate the diseased actions which occasionally require our interference. For this purpose, our attention may be first directed to the anatomical changes which occur in the uterus, ovaries, fallopian tubes, &c. of which, however, it will be impossible to give more than a hasty sketch.

The *structure* of the uterus, in its quiescent state so close and firm, becomes loose; its interlacing fibres being extricated, there are found numerous interspaces, some of which are of very considerable size. Some authors affirm that an addition of new matter takes place in the walls of the womb during gestation, taking as proof the vastly increased size of the womb, and the rather increased than diminished thickness of its parietes. Others deny this supposed addition or hypertrophy, and explain the apparently increased substance and actually increased bulk of the uterus, by referring to the greater laxity of its tissue during pregnancy.

An equally remarkable change takes place in the *vessels* of the uterus.[1] Before conception, just so many transmitted red blood and were visible, as sufficed for its nutrition and for its periodical secretion; but during pregnancy, these vessels increase to many times their original size; and vessels into which red blood had never previously penetrated, now enlarge, for the nutrition of the fœtus (Tiedemann.) The intervals between the uterine fibres are occupied by the enlarged vessels, which from their magnitude opposite to the placenta, are called sinuses. This augmentation of vascular machinery of course implies a great increase of circulating fluid.

The *nerves* supplying the uterus likewise become hypertrophied (Hunter,[2]—Tiedemann,[3]) and this is the more remarkable, as it consists not in any degree in distention (as in the vessels,) but is entirely an increase of substance in each nerve.[4]

[1] Dr. Montgomery on the Signs and Symptoms of Pregnancy, p. 3.

[2] Anatomy of the Gravid Uterus, p. 21.

[3] Tabulæ et Nervorum Uteri descriptio, p. 10.

[4] "It is well known that immediately on conception the uterine system becomes endowed with a remarkable increase of vital action, affecting its various constituents, so that it is thrown into a condition which, if not properly inflammatory, we may certainly consider with Baillie, 'a state analogous to inflammation.' Thus there takes place at once a great increase in

The *lymphatics*, which can scarcely be detected in the virgin uterus, undergo a similar development, and form a very remarkable portion of the vascular network supplying and surrounding the uterine system. This is exhibited most strikingly in some diseases.

From the moment of conception until nearly the termination of pregnancy, the womb goes on increasing in *size;* itself distended by the accumulating liquor amnii, it distends in its turn the abdominal parietes almost as much as they will bear, ascending gradually towards the epigastrium, in front of and rather below the intestines, which are in a great measure displaced and pushed up by it. The proportional increase has been minutely estimated.

"The virgin uterus," says Dr. Montgomery, "is about two and a quarter inches long, one and three-quarters broad, and about an inch from back to front, with a cavity which would not more than receive into it the kernel of an almond. According to the calculations of Levret, its superficies may be taken at 16 inches, but at the end of the ninth month of gestation its length is from 12 to 14 inches, and its breadth from 9 to 10, and from back to front from 8 to 9 inches: its superficies is now estimated at about 339 inches, and its cavity, which before impregnation was equivalent to about $\frac{1}{14}$ths, or *quam proxime* three fourths of a cubic inch, will now contain 408, so that its capacity is increased a little more than 519 times, and its solid substance from $4\frac{1}{8}$ to 51 cubic inches, or nearly in the ratio of 12 to 1."[1]

Conception, and the transmission of the germ, leave the *ovary* which contained the germ, and the corresponding *fallopian tube*, considerably more vascular than usual, and in the former is discovered the corpus luteum and the cicatrix of the laceration through which the ovulum escaped. A more minute description would be misplaced here, especially as the reader can refer to Dr. Montgomery's work, where the details are illustrated by engravings.

Considering all this, it cannot be a matter of surprise that some irregularity of innervation should occur—that disturbances of the circulation, inflammation and its products, should take place—or that the fibres of the uterus, unlaced and endowed with additional sensibility, should manifest irregular action.

the vascular supply, directed towards the organ and its appendages—the vessels are gorged and distended with blood—and many of them, previously impervious to its passage, now begin to circulate that fluid freely: the tissue of the organ becomes infiltrated with serum, so that its bulk is increased, its texture softened, and its fibres separated, while upon its internal surface lymph is poured out to line that cavity with the decidua, which partakes largely of the characters of the false membranes, the results of inflammatory action in other situations. And lastly, the nerves of the uterus increasing both in number and size, as William Hunter suspected and Tiedemann has proved, impart to it a more exalted degree of sensibility, which, from their close connection with the great abdominal plexuses, is quickly diffused through the system at large, which is soon found to participate in the excitement emanating from the uterus."—Montgomery's Signs of Pregnancy, p. 2.

[1] Signs and Symptoms of Pregnancy, p. 3.

These vast anatomical changes are concomitant with development of certain physiological phenomena, of which they may be considered the instruments; and it is by combining the two that we can estimate, in some degree, the predisposition to disordered action.

That the uterus, thus endowed with great nervous power[1] and vascular capacity, and becoming the seat of a higher degree of irritability, should take on new actions, some of which may be in excess, is not to be wondered at. That it should thus assume a new pathological condition, we should therefore expect; but this is not all.

Dr. Denman observes—"The truth of no observation in medicine has been more generally acknowledged than that of the extreme irritability of the uterus, and of the propensity which the whole body has to be affected or disturbed by its influence."[2]

"The law of sympathy is one of universal prevalence, and the uterus may be fairly considered the great centre of this influence in the female system. We have already seen that the perfect development of the uterus, or the establishment of that function which capacitates it for conception, is attended by many remarkable consequences, and in pregnancy these effects are not less astonishing: there is scarcely any part or viscus, there is scarcely any action throughout the whole system, which is not influenced in a greater or less degree by impregnation."[3]

The effect of this sympathy is shown both in the *general state of the body* and in the *altered conditions of the individual organs.*

The *general state* is said to be one of plethora, and the woman is said to suffer from a degree of febrile action. This view is supported by the increased vascular machinery, and the consequent augmentation of circulating fluid—by the (supposed) effects of the suppressed menstruation[4]—by the buffy state of the blood, when drawn during pregnancy, in the absence of inflammation—(Den-

[1] "Mais s'il est vrai, comme on ne peut en douter, que le système uterine devienne alors une centre de vitalité, ne pouvrait-on pas dire aussi que c'est aux dépens des certain systemes ou au moins de quelques uns d'entre eux? Ce qu'il y a de certain, c'est qu' une femme, dès qu' elle est enceinte, parait plus nerveuse, plus lymphatique et plus faible qu' à l'ordinaire; elle a plus de susceptibilité; son tissue cellulaire semble s'infiltrer; les fluides blancs predominent de toutes parts; en un mot, la vie generale paroit alors moins energique et moins active."—*Capuron Traité des Mal. des Femmes, p.* 355.

[2] Introduction to Midwifery, p. 145.

[3] Dr. Ashwell's Practical Treatise on Parturition, p. 161.

[4] "Whereas, a woman, when pregnant, becomes suspended as to her menstruation, this circumstance has led to the supposition that there must exist a plethoric condition of the vessels during this state, and consequently, that *plethora* must be the cause of many of the diseases which present themselves at that period. But if this were the case, the vascular overfulness in question would be likely to affect the constitution much more in the earlier than during the latter months of pregnancy; it being a fact that the fœtus, for which it is supposed the blood is reserved, increases in bulk in the latter months over what it does in the earlier months, in the proportion of five to one. We should therefore conclude that the retained menstrual blood could

man,[1] Burns,[2] Rasori,[3] Blackhall,[4] Scudamore, Maunsell,[5])—and by the greater frequency of the pulse in pregnant women—(Rochoux, Desormeaux, Montgomery,[6] Maunsell,[7] Guy.[8]) Some of these

not be consumed by the fœtus in the earlier months, and that thus it might become productive of a congested state of certain portions of the mother's sanguiferous system; and that in the latter months it might require a more ample supply than could be provided for it by the supposed retention of the menstrual secretion. There are, however, some constitutions in which there would appear to be a greater increase of irritability than of blood."—*Davis's Obstetric Med.* 2d Part. p. 858.

[1] Introduction to Midwifery, p. 220.

[2] "Pregnancy produces an effect on the general system, marked often by a degree of fever, and always by an altered state of the blood. This state is the consequence of local increased action, induced on the same principle as when an organ is inflamed. There would appear to be likewise a tendency to the formation of more blood than formerly, and the nervous system is often rendered more irritable and sensible. The gravid uterus also has an effect by sympathy on other organs or viscera, and likewise on some of them mechanically, by its bulk and pressure."—*Principles of Midwifery*, p. 246.

[3] Rasori thus concludes the chapter on the subject in question: "I do not mean to deny the frequency of the buffy coat during pregnancy, but I maintain, in the first place, that it is not so common as is generally supposed; in the second, that it is frequently caused by some obscure inflammatory affection; in the third, that pregnancy, in a great number of cases, is accompanied by a more or less slight diathesis of stimulus, occasioned either by general plethora, or by an increase of stimulus, which the uterus is of necessity at this period subjected to; in the fourth place, that these and other conditions of pregnancy tend to produce an increase of stimulus, and the consequent increase of circulation and augmentation of heat may cause the fibrine to acquire a firmer consistence than it would possess in a state of health, which, as I have already explained, is the cause of the buffy coat being produced."—*Teoria della Flogosi*, p. 39, quoted from *Lancet* for March 30, 1839, p. 45.

[4] On Dropsy, pp. 279–80.

[5] "Upon two points connected with the circulation of pregnant women, I attempted some investigations. In the first place, I was anxious to ascertain whether or not physiologists are correct in stating that the blood during gestation uniformly presents a buffed appearance. Every opportunity which presented of examining the blood of healthy pregnant women was accordingly embraced, and although my observations were not sufficiently numerous to warrant me in affirming positively that the circumstance mentioned does not usually take place in health, still I have seen enough to enable me to state that buffing is very far from being a usual occurrence."—*Report of Wellesley Dispensary, Ed. Med. and Surg. Journal*, No. 117.

[6] "It has been already noticed that the state of pregnancy is one of increased vascular action, not only in the great organ primarily affected, but generally throughout the system, by which a disposition is created to certain affections indicative of plethora, and best alleviated by venesection or other depleting measures."—*Signs and Symptoms of Pregnancy*, p. 9.

[7] "The other point related to the state of the pulse during the period of gestation. Among forty-eight healthy women taken indiscriminately, mostly in the eighth or ninth month of pregnancy, the pulse was in thirty-two of them above 100, in many 120, and in one 144. This extraordinary rapidity, of course, evinces considerable excitement in the circulating system."—*Dr. Maunsell's First Report of the Wellesley Dispensary, Ed. Med. and Surg. Journal*, No. 117.

[8] Dr. Guy's observations do not support this view of the increase in the

reasons are very hypothetical as matters of fact—others may be true, but the observations have not been sufficiently numerous to be quite satisfactory, and a third class are undoubted facts. But however hazardous it might be to found any general views of practice upon such statements, there can be no difficulty in appreciating their value in forming our estimate of the predisposition to disease occasioned by gestation.

We have now seen the influence which the anatomical changes in the uterine system, and the general sympathy with the gravid uterus, may possibly have in predisposing to disordered action—it only remains to examine the effects of the same cause upon individual organs, and then the subject of this chapter will be completed.

The different organs of the body will be affected either *mechanically* or by *sympathetic irritation*, or in both ways at the same time. The rectum, urethra, and neck of the bladder, are subject to a considerable degree of pressure, whilst the enlarging uterus remains in the cavity of the pelvis—but these being hollow organs may be compressed without injury, and therefore we are not very often consulted unless (through sympathetic irritation) diarrhœa, dysentery,[1] or frequent desire to make water be excited.[2] Again, a sensation of weight in the pelvis, or of "falling through," with more or less aching pain in the back, is a frequent concomitant of pregnancy; and should sudden and violent expulsive force (accidentally or purposely) be employed, flexion, or depression of the womb, may result.

When the uterus rises above the brim of the pelvis, the pressure is removed from the lower portion of the intestinal canal, to be transferred to the contents of the abdominal cavity. The uterus lies over (as it were) upon the bladder, diminishing its capacity, and giving rise to a desire to evacuate it frequently, or sometimes to incontinence of urine.[3]

Further—"When the uterus has acquired its full growth, it occupies a very large space in the abdominal cavity, pressing both the liver and stomach upwards against the diaphragm, by which the capacity of the chest is diminished, the action of the lungs impeded, and a greater or less degree of dyspnœa induced; while, at

pulse during pregnancy, but it may be partly owing to a difference in the posture in which the pulse was counted.—*Guy's Hospital Reports*, vol. iii. p. 111. Hohl's experiments are in favour of a greatly increased frequency of pulse, and appear to have been performed on a greater number of patients. —(*Die Geburtshülfliche Exploration von Dr. Anton F. Hohl.*)

[1] Denman's Introd. to Midwifery, p. 146.

[2] "The first organ generally affected in this way is the bladder, which, in the earlier periods of pregnancy, is liable to increased irritability, owing to its receiving its supply of nerves from a common trunk with those of the uterus, so that frequent micturition is often a very early consequence of a gravid uterus, and one which occasionally continues very troublesome throughout the greater part of gestation."—*Montgomery, Signs and Symptoms of Pregnancy*, p. 4.

[3] Ibid. p. 4.

the same time, the passage of the bile into the duodenum is interfered with, and slight jaundice makes its appearance, or considerable disorder of the stomach, with very imperfect digestion, renders the patient very uncomfortable."[1]

More or less influence is produced upon the circulation in the lower extremities, from the impediment offered to the ascending column of blood by the lower portion of the uterus—giving rise sometimes to varicose veins, and sometimes to œdema.

Occasionally the skin of the abdomen is painfully stretched, either from its want of elasticity, or from the extraordinary distention of the abdomen. On the other hand, after repeated child-bearing, the laxity of the skin exposes the patient to some inconvenience, by permitting the uterus to fall forward.

The degree of *sympathetic irritation* excited in different organs, is in general in proportion to the amount of the change which takes place in the organ exciting the irritation—or, in the present case, in proportion to the difference between the quiescent and impregnated womb, modified by the temperament of the individual.

At a very early period the peculiar sympathy of the stomach is excited, and "morning sickness" results. The recurrence of nausea and vomiting at a later period is not uncommon, and appear to result partly from sympathetic irritation, and partly from mechanical pressure—(Denman,[2] Burns.[3])

To the same combined causes we may attribute the constipation or diarrhœa which often predominate or alternate during the latter periods of pregnancy.

A very remarkable change takes place in the secretion of the kidneys in pregnant women; the urine contains a principle which was first accurately described by M. Nauche,[4] and which has lately received the name of "Kiestëine." It was supposed by Nauche to be the caseum of the milk secreted during gestation. At present this is merely an hypothesis. It resembles a milky cloudiness through the urine, or a thin whitish pellicle on the top—though

[1] Dr. Montgomery's Signs of Pregnancy, p. 6.

[2] Introduction to Midwifery, p. 146.

[3] "When we consider the great connection which subsists between the uterus and other abdominal viscera, by means both of the sympathetic and spinal nerves, as well as by that more mysterious sympathy which exists between one organ and another, beyond what can be explained by mere connection of nerves, we need not be surprised at the powerful effect often produced by pregnancy on the different organs of digestion, particularly on the stomach and duodenum."—*Burns's Principles of Midwifery*, 9th ed. p. 248.

[4] According to M. Nauche: "By allowing the urine of pregnant women, or of nurses, to stand for some time, in thirty or forty hours a deposit takes place of white, flaky, pulverulent, grumous matter, *being the caseum or peculiar principle of milk formed in the breasts during gestation.* The precipitation is more readily procured by adding a few drops of alcohol to the urine."—*Quoted from the Lancet, in Montgomery's Signs of Pregnancy*, p. 157.

this is obscured in proportion as the urine is deep-coloured—(Eguisier,[1] Montgomery.[2])

No comment is necessary upon the intimate sympathy which exists between the uterus and breasts, and the development of the areola, sebaceous and mammary glands, consequent upon conception. Occasionally it is excessive, and requires treatment.

So remarkable a local development of nervous organisation is naturally attended with a general exaltation of nervous energy, or an increase of irritability in the nervous system as a whole.[3] This in itself may render the patient obnoxious to nervous disorders, but it especially exposes her to the agency of external and noxious impressions, and of mental emotions.—(Gardien,[4] Montgomery.)

[1] "The urine of a pregnant woman, examined in the morning, is generally of a pale, yellow colour, slightly milky; it first reddens, and then turns blue the "papier tournesol," as ordinary urine. Exposed to the contact of air, a cloudiness is observed from the first day, resembling fine wool; from the first day, also, a floccy white matter is deposited. These phenomena are not, however, constant. From the second to the sixth day, small opaque bodies are seen rising from the bottom to the surface of the fluid, and then collecting together until they form a layer, covering the whole surface—this is kiestëine. It is sufficiently consistent to be raised from off the fluid. It is whitish, opaline, slightly granular, and resembles very much the layer of fat which swims on the surface of fat broth when cooled. Examined by the microscope it appears a gelatinous mass of indeterminate form. When it is old, cubical crystals are sometimes detected." No animalcules could be discovered by M. Eguisier. "Kiestëine persists thus for three or four days; then the urine becomes troubled, small portions are detached from the surface, and sink to the bottom, until the layer is entirely broken up." "Kiestëine appears to exist in the urine from the first month until the period of delivery." "We have found it after twenty-four hours—rarely so late as the sixtieth day."—*Lancette Française*, Feb. 1839, p. 36.

[2] Dr. Montgomery remarks as to his observations: "In some instances no opinion could be formed as to whether the peculiar deposit existed or not, on account of the deep colour and turbid condition of the urine; but in the cases in which the fluid was clear, and pregnancy existing, the peculiar deposit was observed in every instance. Its appearance would be best described by saying, that it looks as if a little milk had been thrown into the urine, and having sunk through it, had partly reached the bottom, while a part remained suspended, and floating through the lower part of the fluid, in the form of a whitish semi-transparent filmy cloud."—*Montgomery, Signs of Pregnancy*, p. 157.

[3] "When speaking of the physical changes which the uterine system undergoes in consequence of impregnation, it was remarked that the nerves distributed to that organ and its appendages were augmented in size and number, and having their sensibility exalted, diffused throughout the system generally an increase of nervous irritability, which displays itself under a great variety of forms and circumstances, rendering the female much more excitable, and more easily affected by external agencies, especially those which suddenly produce strong mental or moral emotions, whether of the exhilirating or depressing kind, as fear, joy, sorrow, anger."—*Montgomery, Signs of Pregnancy*, p. 12.

[4] A striking illustration of this was communicated to M. Percy, by MM. Schmid and Mesnard, who were in charge of the Military Hospital at Landau when the arsenal at that place was blown up. He mentions, in the article *Detonation* (*Dict. des Sciences Medicales*,) "that among 92 children

Nay, the operations of the mind may become seriously impaired, in consequence of the disturbance of the bodily instrument by which they are effected. Whilst many patients meet the inconveniences of gestation courageously, and are consoled for them by the joy promised at the termination, others are depressed and anxious from the very beginning. Nothing goes right with them—the present is a period of suffering—the future of terror—they dwell upon the dark side of their prospect until the mind is fitted to receive those impressions which realise their own predictions.—(Montgomery.[1]) Drs. Merriman[2] and Ramsbotham[3] both mention the unfavourable results to females of a certain rank by the death of the lamented Princess Charlotte.

This nervous state is sometimes carried to such excess that the patient becomes insane—Montgomery[4], Esquirol[5], Burrows,[6] Pritchard.[7]

The mental disturbance is in some instances only partial, as in the case of Mrs. Durant, who lost the memory of all that occurred during pregnancy.[8]

In other cases the depression of spirits is remarkable only at the commencement of gestation, and, gradually diminishing, disappears towards the termination—(Montgomery.[9])

born at Landau within a few months of the accident, 8 were nearly idiotic, and died before they were 5 years old; 33 lived till their 8th or 10th year, but were very delicate; 16 died at birth; and 22 came into the world with numerous fractures of the long bones."—*Gardien, Traité des Accouch.* vol. ii. p. 17.

[1] "The irritation of the nervous system is in some most obviously perceived in the changes induced in the moral temperament, rendering the individual depressed or despondent, or perhaps she who was naturally placid and sweet-tempered becomes peevish, irritable, and capricious, to a degree as distressing to herself as it is disagreeable to others." "I have known the effect produced to be the reverse of all this, and a decided amelioration take place in the temper, as we sometimes also see happen in the exercise of the bodily functions during pregnancy."—*Montgomery, Signs of Pregnancy*, pp. 18–19.

"L'exemple suivant, rapporté par le professeur Sue, dans son histoire des Accouchemens, prouve combien tout ce qui peut alarmer l'imagination est propre á troubler la grossesse. Une Bohémienne prédisit à une femme qu'elle mourait pendant sa grossesse. Elle en fut tellement frappée, qu'elle fit son testament, et mourut en effet quelque temps après."—*Gardien, Traité Complet des Accouchemens, &c.* vol. i. p. 192.

[2] Synopsis of Difficult Parturition, p. 224.

[3] Pract. Obs. in Midwifery, vol. i. p. 192.

[4] "Occasionally the depression assumes a more serious aspect, and the woman is constantly under the influence of a settled and gloomy anticipation of evil, sometimes accompanied with that sort of apathetic indifference which makes her careless of every object that ought naturally to awaken an interest in her feelings."—*Montgomery, Signs of Pregnancy*, p. 20.

[5] Treatise on Insanity, p. 161.

[6] Commentaries on Insanity, p. 147.

[7] Treatise on Insanity, p. 312.

[8] Mem. of an Only Son, vol. i. p. 147.

[9] Signs of Pregnancy, p. 19.

Occasionally, but rarely, both the bodily health[1] and the mental condition appear to be improved by pregnancy.

Having thus pointed out the anatomical peculiarities of the uterine system during gestation, with the general and local sympathies excited by them—I shall conclude this chapter by merely alluding to the sanatory effect of pregnancy upon co-existing diseases. The subject is far too extensive to be followed out here, besides being somewhat out of the course I have proposed to pursue. I cannot do better than quote the words of Dr. Montgomery, merely premising, that my own experience amply bears out his testimony:

"Indeed I think we have sufficient evidence to justify the belief that pregnancy acts in a great degree as a protection against the reception of disease, and apparently on the common principle, that during the continuance of any one very active operation in the system, it is thereby rendered less liable to be invaded or acted on by another; thus it has been observed that during epidemics of different kinds, a much smaller proportion of pregnant women have been attacked than of others; and when women who have been labouring under certain forms of disease happen to conceive, the morbid affection previously existing is either greatly mitigated, checked, or even altogether suspended for a time, as has been frequently observed in persons affected with phthisis. I had a patient under my care some years ago, affected with a white swelling of the elbow-joint, which had gone to a great length, and was very little benefited by treatment, when all of a sudden a very rapid amendment was observed. On questioning the lady, I found that she had reason to think herself about six weeks pregnant—which was the fact; from that time the cure advanced uninterruptedly, so that before the end of her gestation, the arm was perfectly well, and has continued so ever since."[2]

[1] "In a few cases, a very salutary change is produced on the whole system, so that the person enjoys better health during pregnancy than at other times."—*Burns's Midwifery*, p. 249.

[2] Signs of Pregnancy, p. 25.

M. Nauche has a very interesting chapter on the effects of pregnancy upon acute and chronic diseases, and of these diseases upon pregnancy. "Pregnancy," he observes, "in general increases acute diseases, especially those of the uterus"—"it may cure hemoptysis or hemorrhages distant from the uterus"—"chronic diseases are rendered slower in their progress, and some are cured"—"a temporary benefit is experienced in phthisis, and certain diseases disappear"—"except in procidentia and spasm, no good effects are produced upon the chronic diseases of the womb, on account of the increased afflux of fluids."—*Mal. des Femmes*, Part. II, p. 690.

CHAPTER II.

ON THE GENERAL MANAGEMENT OF PREGNANT FEMALES.

It is not often that medical men are consulted as to the management of pregnant women, under ordinary circumstances. A certain amount of inconvenience is anticipated, and so long as this supposed limit is not passed, the patient contrives, with the advice of her female friends, to dispense with a medical attendant. Notwithstanding this, it is very desirable that every medical man should be perfectly familiar with the proper management of these cases, if for no more direct reason, yet for this, that through and by them more correct information may be circulated amongst those who are in circumstances to need it.

Moreover, by taking a rational view of these inconveniences we may often lay down rules which will prevent their occurrence; or by very slight adaptations we may avoid the extremes of neglect or of over treatment, and yet relieve the patient.

The rules for management are neither numerous nor intricate, but are simple deductions from the changes induced by pregnancy, as just enumerated—verified by practice. There is much more to be done in the way of avoiding disturbing causes, than of remedying their effects.

We have already seen that pregnancy is a physiological condition—that it is a "changed, but not morbid" state—that certain sympathies are excited naturally, and almost necessarily, and consequently we cannot, when speaking of treatment, contemplate their total suspension or removal. In the words of the experienced Dr. Burns: "As these proceed from the state of the uterus, it follows that when they exist in a moderate degree, they neither admit of, nor require any attempts to cure them, for their removal implies a stoppage of the action of gestation, which is their cause. But when any of the effects are carried to a troublesome extent, then we are applied to, and may palliate, though we cannot take them away. This we do by lessening plethora, or local irritation, or excitement of the origin of the nerves, if necessary, by blood-letting, and allaying the increased irritability of the system, by the regular use of laxatives, which remove that particular state of the bowels which is so apt to cause restlessness and nervous irritation. If these are not altogether successful, the camphorated julep or musk are useful medicines. Besides this general plan, we must diminish the febrile state of the system, where such exists, by the regulation of the diet, and suitable remedies."[1]

[1] Principles of Midwifery, p. 249. De la Motte, Traitè des Accouch. p. 64.

No doubt, I believe, now exists in the minds of well-informed practitioners as to the propriety of blood-letting when symptoms demand it, but the practice of taking away blood merely because the woman is pregnant, is strongly to be reprobated. It may injure some, do neither good nor harm to others, and will relieve those only whose condition requires it (Gardien.[1])

Many writers object to the employment of purgatives (just as they do to bleeding) altogether, and others give them systematically: the correct course is undoubtedly to avoid either extreme. The bowels must be free, and when nature is insufficient, we must have recourse to laxatives (De la Motte,[2] Gardien,[3] &c.) The mildest which will answer the purpose, is the best. An occasional dose of castor oil, electuary of senna with sulphur (especially if there be piles,) or saline purgatives, in small quantities, will be found sufficient. Or the patient may use the "lavement" of warm water or gruel once or twice a day (De la Motte;[4]) this is peculiarly suitable when the stomach is irritable.

Great objections have been made to the employment of more potent remedies, as emetics or opiates, though these may be given if there be an adequate occasion (Gardien,[5] Burns.[6])

The patient should have the benefit of moderate exercise, of pure air—neither too hot nor too cold—of mild, bland, nutritive food (Burns,[7]) and of loose, easy, comfortable dress (Gardien.[8])

[1] "En employant la saignée chez toutes les femmes enceintes au terme de quatre mois et demi, elle nuirait à celles qui sont faibles, serait inutiles à celles chez qui il ne se rencontre aucun accident produit par la plethore." "La saignée doit etre bornée aux cas de plethore manifesté ou à ceux d'un surcroit d'activité dans la matrice."—*Gardien, Traité Compl. des Accouch.* vol. ii. p. 2.

[2] Traité des Accouchemens, p. 67.

[3] Traité des Accouchemens, vol. ii. p. 4.

[4] Traité, p. 61.

[5] Traité, vol. ii. p. 5.

[6] "Petit, and many after him, have been of opinion that opium is hurtful during gestation, and there can be no doubt that it generally is so when given frequently. It is detrimental, both by its effects upon the stomach and bowels, and on the system at large. In severe spasms, or great irritation, it may be necessary, but it never ought to be often repeated, as it ultimately increases the irritability, and injures the bowels, as it would do in chorea." —*Burns's Midwifery*, p. 249, (*note.*)

[7] "In the dietetic part of our treatment, we must bear in mind that we ought neither to admit of such regimen as shall fill the vessels with too much fluid, nor throw the organs into disorder. Much liquid, even of the mildest nature, ought to be avoided, and the aliment must neither be too rich nor too acescent." "Whatever fruit agrees with the patient, it may be freely allowed, and the same may be said of well-boiled vegetables; but when these occasion acid or flatulence, they must be refrained from. It is of much importance to preserve the bowels in a correct and active state. The exercise to be taken or permitted must be regulated by the probable chance of abortion resulting."—*Burns's Midwifery*, p. 250.

[8] "Le mot *enceinte*, par lequel ils designent une femme grosse, veut dire *sans ceinture*, selon son sens originaire."—*Gardien, Traité des Accouch.* vol. ii. p. 15.

A rational adaptation of these few means will in most cases relieve the chief distress occasioned by the general sympathy of the constitution[1] with the gravid uterus.

We shall now proceed to consider the best remedies for the local sympathetic irritations, and in so doing shall follow the order in which they were enumerated.

The mechanical inconveniences of early pregnancy (we have seen) are—pressure upon the rectum, causing constipation; upon the urethra, or neck of the bladder, rendering the evacuation of the urine difficult; and upon the floor of the pelvis, giving the sensation of weight, or falling through. Now, against the first of these consequences we may guard by the due administration of mild laxative medicine, which, at the same time, will often prevent the occurrence of diarrhœa: against the second and third, by the regular evacuation of the bladder at short intervals, and by avoiding the prolonged maintenance of the upright position, whether by standing or walking. This precaution is the more evidently necessary, as we sometimes find its neglect aid in the displacement of the uterus. All expulsive efforts must be sedulously avoided.

When the womb has risen above the brim of the pelvis, and is found to press inconveniently upon any organ, it may generally be remedied by an alteration of position when in bed, or by remaining in the horizontal posture for a longer time than usual.

The latter position will often afford at least temporary relief to the distress occasioned by varicose veins, or œdema of the lower extremities.

"Pendulous belly," arising from the flaccidity of the abdominal parietes, may be relieved by stays of a proper construction, which support the lower portion of the uterine tumour, and keep the whole more upright.

The soreness, from stretching of the skin, may generally be removed by gentle friction with oily liniments.

It may be impossible to avoid or prevent all the sympathetic irritations of pregnancy, especially those which are strongly favoured by constitutional idiosyncrasy; but all external causes should be carefully shunned, and all arrangements made with reference to their effects upon the temperament and habits of the patient. The food must be adapted to the irritability of the stomach or intestinal canal, and any medicine given must be chosen with reference to this state.

If the appetite be fastidious, and the patient take likings or dislikings, these (particularly the latter) should be indulged, so far as they are consistent with health and common sense.

The constipation or diarrhœa must be met by their appropriate

[1] See *ante*, p. 8, *et seq.*

remedies.[1] "Lavements" will be found peculiarly useful (De la Motte.[2])

In some cases, where the breasts are painful, relief is obtained by the use of an anodyne liniment, or friction with warm oil alone.

"The extreme impressibility of the nervous system in pregnant women teaches us the necessity for preventing them from witnessing scenes of acute suffering or distress, such as those of sickness, especially convulsive affections, or the agonies of a death-bed: they should not be present when others are in labour, which sometimes greatly terrifies the timid, and even those who pass with courage through the same process themselves. They should not expose themselves to infectious disorders, which, if they should happen to catch, (though they seem less liable to do so than others,) they will at least be very liable to miscarry; and even though they may not be themselves susceptible of the disease, the unborn infant may suffer from it, as has been proved with regard to small pox. Neither should they be permitted, if possible, to see disgusting objects, for although no injury may thereby be done to the child, their minds are apt to remain much troubled with anticipations of some deformity or disfigurement likely to ensue."[3]

These observations apply chiefly to the management of the ordinary course of pregnancy, or to very slight deviations from it. The more serious cases will come under our consideration in distinct chapters, under the several subjects with which they are classed.

The disorders of pregnancy may be divided into three classes:—1. Local diseases of the sexual system. 2. Diseases arising from sympathetic irritation. 3. Diseases arising from mechanical causes. And in this order I propose to treat of them.

[1] Unless we observe some degree of minuteness in our enquiries, we are liable to be misled by the patients declaring the bowels to be too free. They may be frequently moved, although but a very small quantity passes each time. In this case a mild purgative is required, not an astringent.

[2] "And lastly, what other remedy can so promptly relieve the suffering in colic or dysentery, by soothing the diseased parts themselves, and that without prejudice to the individual employing them?"—*De la Motte, Traité des Accouchemens*, p. 62.

[3] Montgomery, Signs of Pregnancy, p. 15.

SECTION I.

DISEASES OF THE GENITAL ORGANS IN PREGNANT FEMALES.

CHAPTER I.

ŒDEMA OF THE LABIA. *Œdème des Levres*, Fr. *Wassergeschwulst des Schammlefzen*, G.

This is a disease of not unfrequent occurrence with pregnant women, varying a good deal in amount, and consequently in the degree of inconvenience it occasions.

It is rather rare to find it during the early months of gestation; it is ordinarily confined to the 7th, 8th, and 9th months.

Cause.—In the more numerous cases, the effusion is manifestly the result of pressure upon the veins, impeding the return of the blood. According to Dr. Davis,[1] this is peculiarly the case where the pelvis is sufficiently large to permit the enlarged uterus to sink down into it.

In another class of cases it appears as part of a general disposition to dropsical effusion, manifested during and limited by gestation; not having more important pathological relations than when

[1] "These effects usually occur in women having pelves of sufficient amplitude to admit the gravid uterus to sink more or less deeply into their cavity, at a late period of pregnancy. The author recollects one case, in which the effect was partly ascribable to this cause, and partly to a general hydropic diathesis. Both labia were engorged, but one was prodigiously distended. The uterus was so low in the pelvis, that it felt to be absolutely incumbent on its very flooring. It was, however, distinctly moveable upwards, by the application to it of even moderate pressure. There was no difficulty of breathing, nor any other indication of effusion into the thorax. The treatment adopted was simple, and proved effectual. The patient was advised to lie down, with her head and shoulders as low as she conveniently could, and to use the horizontal position exclusively; while for the general infiltration, which indeed seemed co-extensive with the cellular tissue of the entire surface of the body, she was prescribed calomel and digitalis, in the proportion of three grains of the former and one of the latter, night and morning, with the occasional addition of moderate doses of powdered jalap and citrate of potass. This treatment had the effect, in a few days, of completely removing the anasarca. The labia were also reduced to very nearly their natural size. To retain them, however, in a state of moderate non-distention, the patient found herself under the necessity of keeping to the position prescribed to her till the accession of her labour."—*Davis's Obstetric Med.* vol. i. p. 40.

See also Gardien, Traité d'Accouchemens, vol. ii. p. 89.

it is the result of pressure merely.[1] It is needless here to refer to those cases where it is caused by disease of the womb, as they seldom occur during pregnancy.

Symptoms.—The patient complains of a sensation of fulness, with more or less stiffness of the parts, rendering movement disagreeable or painful. In some cases there is considerable itching. Mauriceau has described a variety where this latter symptom was very distressing.[2]

On examination, the labia will be found swollen, tense, colourless, almost transparent, of an equable density, and pitting upon pressure.

The swelling is less in the morning, but is much increased towards evening, in all cases where it arises from pressure, and the distress it causes is relieved by lying down.

The reverse is often the case where it is a part of more extended effusion (Puzos.) The amount in some cases is very considerable. Dr. Meigs, of Philadelphia, has seen it so great as to interrupt the passage of the head of the child, and interfere with delivery until the fluid was evacuated.[3] In a great many cases this affection is accompanied by œdema of the legs and feet.

Ordinarily there are no traces of inflammation about the labia, but in some cases the friction of one labium against the other has given rise to inflammation of their inner surfaces. Apthous inflammation has also been observed to attack the labia, and Mauriceau[4] mentions that he has known œdematous labia attacked by erysipelas, which proved fatal after delivery. When the effusion is caused by pressure simply, there are no constitutional symptoms, but there is more or less feverishness when it results from inflammatory action in the cellular tissue, forming part of general dropsy.

The disease disappears altogether, immediately after delivery, in the majority of cases.

[1] Mauriceau, (1724,) Des Maladies des Femmes grosses, vol. i. p. 179.
De la Motte, (1726,) Traité des Accouchemens, p. 79.
Puzos, (1759,) Traité d'Accouchemens, p. 84.
Burns's Midwifery, 9th Ed. p. 239.
Siebold's Frauenzimmerkrankheiten, vol. ii. p. 75.
Joerg, Handbuch der Krankheiten des Weibes, p. 467.

[2] "J'ai vû quelques femmes grosses avoir les levres de la vulve grandement tumefiées par quantité des varices, qui en rendoient la tumeur fort inégale et y causoient un prurit douloureux. Cette accident arrive à certaines femmes qui sont trop sanguines, et qui ont ordinairement le ventre fort reserré. Pour y remedier elles doivent etre saignées du bras, se tenir le ventre libre, s'abstenir du coït, et d'user d'un regime de vivre rafraichissant."—*Des Maladies des Femmes grosses, &c.* vol. i. p. 180.

[3] "I have met with instances in which each labium was swollen to four or five times its natural size, from serous infiltration. In some of these cases the tumour has been hard, and very resisting. I found it necessary on that account to puncture them, in order to admit of the reduction of the size, before the child could pass forth of them."—*Dr. Meigs's (Philadelphia) Practice of Midwifery*, p. 111.
Se also Joerg's Handbuch der Krankheiten des Weibes, p. 467.

[4] Mal. des Femmes grosses, vol. i. p. 181.

Diagnosis.—It may easily be distinguished—1. From *phlegmon of the labia*, in which we find a circumscribed hard tumour, exquisitely painful on pressure, generally limited to one labium, the surface of which is of a bright red colour; whereas in œdema the tumour is not circumscribed, is softer, free from pain, and colourless.

2. *From sanguineous tumefaction of the labium*, which occurs during labour, from the rupture of a blood vessel, and is marked by its suddenness, and the deep red colour it imparts to the skin. In œdema, on the contrary, the swelling occurs before labour, and is perfectly colourless.

3. *From encysted tumors of the labia*, it may be distinguished by the diffused character of the tumefaction, and by the existence of the special cause.

Treatment.—When the effusion is owing simply to pressure, and is moderate in degree, the exhibition of a mild purgative, and rest in the recumbent posture, will generally be sufficient. The patient will derive great comfort from bathing the parts twice a day with tepid milk and water, and afterwards dusting them with some absorbent powder.

Should the distension be great, we are advised to puncture or scarify the parts—nor does this appear to be attended with any danger. Both Mauriceau[1] and Smellie relate successful cases so treated.[2] A similar proceeding will be necessary should the tumefaction offer any impediment to the child's head at the time of labour. (Meigs.[3])

Diuretics have also been found useful.

Should inflammation arise between the opposing surfaces, it will be necessary to use antiphlogistic measures, with soothing applications to the parts, and perhaps to evacuate the fluid.

When this effusion forms but a part of a general attack of acute or chronic dropsy, its treatment will then merge in that of the gene-

[1] As soon as the labour came on, the labia were scarified to let out the contained water. The labour terminated happily two hours afterwards. Inflammation attacked the labia subsequently. The woman had been suffering from fever for some days before delivery, and it continued, with tension of the belly, dyspnœa and diarrhœa, and she died seven days after delivery. The puncture of the labia does not appear to have added to the danger. "Il faut remarquer," continues M. Mauriceau, "que ces sortes de tumeurs qui arrivent quelquefois aux cuisses et aux levres exterieures de la vulve aux femmes grosses ne sont pas ordinairement dangereuses quand elles ne sont simplement qu' œdemateuses."—*Observ. sur la grossesse et l'Accouch. des Femmes et sur leurs Maladies*, 1728, vol ii. Obs. 14, p. 70. See also vol. i. p. 180, Ed. 1754.

[2] Smellie, vol. ii. Coll. 10, No. 3, c. 3, p. 91.

"Sometimes, also, in violent distentions of the legs and labia vulvæ, puncture and scarification will produce good effects, by discharging large quantities of the obstructed serous humours."—*Manning on Diseases of Women*, p. 325.

See also Joerg, Krankheiten des Weibes, p. 469.

[3] See page 26.

ral disease, according to the principles laid down by authorities on the practice of physic.

CHAPTER II.

PRURITUS OF THE VULVA.

In my former work[1] I treated so fully of "itching of the vulva," that I have but little to add here. It is there stated as a not unfrequent accompaniment of pregnancy, owing probably to the increase of the fluids in those parts during gestation. I omitted, however, to state a peculiar condition of the vulva which gives rise to this symptom, and it is for the purpose of remedying this deficiency that I have introduced the subject again. A case of the disease is thus described by Dr. Dewees[2]:—"A lady, whose husband was more notorious for his gallantries than his domestic virtues, was attacked in the incipient stage of pregnancy with an intolerable itching in the pudendum, and even within the os externum, along the vagina. Suspecting she was infected by a venereal affection, we were sent for, and she, giving such an account of her feelings as to make us think it might truly be the case, we proposed an examination of the parts, which was finally acceded to. Upon separating the labia, the whole face of the vulva, the os externum, and the vagina, as far as could be viewed, was covered with an incrustation of aphthæ. We assured our patient her complaint was not as she had expected, but one we hoped we could quickly remove. We accordingly ordered a strong solution of borax in water, and requested her to wash herself four or five times a day with it, as well as to throw some of it up the vagina at the same time: she did so, and was perfectly well in 24 hours."

Dr. Dewees has repeatedly succeeded with the same treatment.

A lotion of acetate of lead, or of nitrate of silver, will be found equally efficacious.

In some few cases, a more decidedly antiphlogistic treatment may be required before the disease will yield. It may be necessary to take blood from the arm, or apply leeches to the vulva, and to give one or two smart purgatives.

[1] Outlines of the Principal Diseases of Females, chap. v. p. 60.
[2] Compendious System of Midwifery, p. 123.

CHAPTER III.

VAGINAL LEUCORRHŒA. *Leucorrhée*, Fr. *Weisser Fluss. Schleimfluss*, G.

I have already referred to the irritation extended from the gravid uterus to the pelvic viscera, and of these we cannot be surprised to find the vagina the earliest and most prominently affected. This irritation gives rise to a considerable increase in the mucous excretion of the vagina—to vaginal leucorrhœa, as it is called.

There can be no question whence the leucorrhœa originates in pregnant females; the cervix uteri being closed, the only secreting surface is the mucous membrane of the vagina. As the subject of vaginal leucorrhœa was treated in the former work on diseases of females, it is unnecessary to enter minutely into the subject at present.

It is an extremely frequent accompaniment of pregnancy, so much so that few entirely escape, although it is rare for it to produce serious effects.

Causes.—It may of course be excited during pregnancy by any of its ordinary causes, but in addition, it may be regarded as the consequence of the pressure of the gravid womb producing irritation,[1] and of the increased vascularity arising from the more active circulation, and the slow return of the blood, owing to the pressure of the superincumbent uterus. It is very probable also that the state of the patient's constitution has much to do with the frequency of leucorrhœa during pregnancy.

It is stated by Dr. Davis to be worse before the uterus rises from the pelvis than subsequently.[2]

Symptoms.—When slight, as it is in the majority of cases, it scarcely gives rise to any symptoms; but when excessive, it causes much debility, and aggravates the aching in the back, of which pregnant women so often complain. I have known patients rendered so weak as to be unable to sit upright, by the excessive quantity of the discharge.

In some cases, at an early period, it may threaten miscarriage, but at the end of gestation it is said to render the labour more easy, by lubricating and relaxing the passages.

As to the character of the discharge itself, very often it is merely an excess of the natural mucus, transparent, colourless, and bland.

[1] "The fluor albus in pregnancy is sometimes exceedingly profuse, and has very much the appearance as if it were caused by or accompanied with inflammation. It may then be occasioned by some extraordinary fulness of the parts adjoining to the uterus, or by more than usual irritation. It does not appear that any bad consequences, either to the mother or the child, follow this complaint, or that it requires any particular treatment."—*Denman's Midwifery*, p. 160.

[2] Davis's Obstetric Medicine, vol. i. p. 161.

Occasionally it is of a thicker consistence, and yellowish or greenish, and very rarely acrid. We sometimes see cases presenting a greater appearance of acute inflammation than those I have described. The pulse is quickened and full, and the parts hot.

In general there is no febrile movement whatever.

Treatment.—It is not always easy, or even desirable, to cure the disease suddenly or radically. It may act as a derivative, and prevent a more serious congestion of a more important organ.

In very slight cases the inconvenience is so trifling that we are rarely consulted.

Even in cases more aggravated, the persistance of the peculiar causes may render our efforts abortive until delivery, with which the disease terminates.

Taking these matters into consideration, our attention, as Dewees remarks, "should be principally confined to the temporizing plan of treatment." "For this reason," he continues, "we simply direct washing the parts three or four times a day with lukewarm water, and throwing into the vagina, by means of a small syringe, a weak solution of the acetate of lead; this should not exceed a scruple to eight ounces of water. Previously to using the injection, the parts should be well washed with a weak solution of fine soap in warm water, by throwing up the vagina a few syringes full of it in quick succession, and then followed by the saturnine solution."[1]

I have found a weak solution of nitrate of silver (gr. x. or gr. xv. to ʒ iii. of water) as an injection, still more effectual. Decoction of oak bark or green tea, solution of alum or acetate of lead, will also arrest the discharge in many cases.

Should the pulse be quick and full, and the parts hot, great benefit will be derived from venesection. The state of the stomach should be attended to, and the action of the bowels promoted. In females of weak constitution, tonics are often useful.

CHAPTER IV.

MENSTRUATION DURING PREGNANCY. *Menstruation, Les Regles,* Fr. *Menstruation, Monatfluss,* G.

It is well calculated to excite surprise, if not incredulity, to find a function, depending upon ovarian influence, and ordinarily performed by the lining membrane of the body of the uterus, taking place apparently, when the cavity of the womb is lined by decidua, and occupied by the ovum.

However strange it may appear, the cases on record are too numerous, and too well authenticated, to leave us in doubt that a dis-

[1] Compendious System of Midwifery, p. 117.

charge resembling the catamenia, in colour, quality, and periodicity, does not unfrequently occur during gestation.

That the ancients were well aware of the fact, appears from a statement of Hippocrates, "that the children of women who menstruate during pregnancy, cannot be healthy."[1]

Many cases of the kind may be cited from both ancient and modern authorities.

Some females are stated to have menstruated once or twice after conception, and that the discharge then ceased. (Mauriceau,[2] Puzos,[3] Stein, Desormeaux,[4] Johnson,[5] Belloc,[6] Van Swieten,[7] Frank,[8] Chambon,[9] Gardien,[10], Capuron,[11], Roderer,[12] Beck,[13] Dewees,[14] Blundell,[15] Gooch,[16] Kennedy,[17] Montgomery.[18])

Again, cases are on record where the discharge did not merely happen once or twice, but persisted during four, five, or six months, or even during the whole period of gestation. (Mauriceau,[19] Dewee,[20]

[1] Aphor. 60, 5th Book.
[2] Mal. des Femmes grosses, vol. i. pp. 72–155.
[3] Traité d'Accouchemens.
[4] Dict. de Med. vol. v. p. 394.
[5] System of Midwifery, p. 100.
[6] Quest. Med. Leg. p. 62.
[7] Commentaries, vol. xiii. pp. 379–489.
[8] Vol. iii. p. 378.
[9] Mal. des Femmes, vol. v. p. 57.
[10] Traité des Accouchemens, vol. i. p. 489.
[11] Med. Legale, p. 63.
[12] Elem. Art. Obstet. p. 46, cap. 7, sec. 146.
[13] Principles of Med. Jurisprudence, p. 76.
[14] Compendious System of Midwifery, p. 93.
[15] Principles and Practice of Obstetricy, p. 165.
[16] Diseases of Women, pp. 202, 203.
[17] On Signs of Pregnancy, p. 12.
[18] Ibid. p. 46.

For several of these references I am indebted to the research of my friend Dr. Montgomery, as I have not access to all the authors referred to.

[19] "Je connois une femme qui a cinq enfans vivans, laquelle en toutes ses grossesses a eu ses menstruës reglement de mois en mois, comme elle avoit cõutume (sinon quelque peu moins) jusqu' au sixieme mois, auquel temps elles lui cessoient seulement; nonobstant quoi elle est toujours accouchée à terme, de tous ses enfans. J'en ai vû une autre, qui ne croyant pas etre grosse, à cause qu'elle avoit ses ordinaires et ressentant quelque incommodité de la grossesse, s'imaginant que ce fut une autre maladie, obligea son medecin de la faire saignée et purger par plusieurs fois; ce qu'il fit tant faire, qu'elle en guerit à la verité, mais ce fut apres avoir avorté d'un enfant de trois mois."—*Mauriceau, Mal. des Femmes grosses*, vol. i. p. 155.

[20] "We are perfectly familiar with a number of women who habitually menstruate during pregnancy, until a certain period; but when that time arrives, it ceases; several of these menstruated until the second or third month, others longer, and two until the seventh month—the two last were mother and daughter. We are certain there was no mistake in all the cases to which we now make reference. Our interrogatories were numerous, and their answers bore all the marks of candour. *First*, they (the menses) were regular in their returns, not suffering the slightest derangement from the impregnated condition of the uterus; *second*, they employed from two to five

Burton,[1] Heberden,[2] Hosack, Francis, Gardien,[3] Velpeau,[4] Blundell.[5])

I have myself seen three or four cases of this deviation from ordinary menstruation. In one it continued regularly up to the eighth month, inclusive; in the others it was arrested between the fourth and sixth month; but in all it was well marked, returning regularly, and varying but little in quantity and quality from the ordinary discharge.

Still more remarkable and rare are those cases where the catamenia appear *for the first time* during pregnancy. (Perfect,[6] Reid,[7] Velpeau.[8])

days for their completion; *third*, the evacuation differed in no respect from the discharge in ordinary, except that they did not think it so abundant; *fourth*, there were no coagula in any of these discharges, consequently it could not be the common blood or the blood of hæmorrhagy; *fifth*, in the two protracted cases, the quantity discharged regularly diminished after the fourth month—a circumstance not perhaps difficult of explanation. We may also cite, in favour of our position, the authority of Heberden, Hosack, and Francis."—*Dewees's Compendious System of Midwifery*, p. 96.

[1] New System of Midwifery, p. 285.

[2] Heberden "knew one who never ceased to have regular returns of the menstrua during four pregnancies, quite to the time of her delivery."—*Commentaries*, p. 208.

[3] Traité d'Accouchemens, vol. i. p. 489.

[4] "Some patients are only *regular* during pregnancy, (*Archives Gen. tome* 24, p. 443,) and the persistence of menstruation during gestation is occasionally almost epidemic, or at least much more frequently some years than others. I have now eight well authenticated cases of this persistence during gestation."—*De l'Art des Accouch.* (*Brussels ed.*) p. 125.

[5] "When a woman is pregnant, the cessation of the catamenia does not invariably occur, for amenorrhœa, though general in pregnancy, is not constant." "Notwithstanding what Denman has said to the contrary, I have myself known women, in whom, during the first three or four months, the catamenia have continued to flow, though not in so large a quantity, nor so long as if they were not pregnant; and in rare cases, I am told, but I have not seen any such case myself, the catamenia may continue to flow up to the very last month. A gentleman, formerly associated with this class, related to me the case of a lady of considerable intelligence, who had had several children, and in three or four of her pregnancies the catamenia continued till the last month; in return, in kind, in every point except in continuance and quantity, the flow was of the catamenial character."—*Blundell, Princ. and Pract. of Obstetricy*, p. 164.

[6] "This case was a young lady who presented all the symptoms of early pregnancy, excepting that at this time the menses appeared, 'a circumstance which had never before attended her.' She continued to menstruate every month until the end of pregnancy, when she was delivered of a small but healthy child."—*Perfect's Cases in Midwifery*, vol. ii. p. 71, case 80.

The following cases are of the same kind:—

"Mad. N———, the wife of a builder, aged 24, and married eight years, had never menstruated excepting when she was pregnant; and when the flux appeared, it was known for a certainty that she had conceived. She ultimately died of dropsy."—*Comment, by G. C. Winckler, Ephem. Germ. An.* 3, p. 555.

"A young woman was married at the age of 21, up to which period she had

Or *only during* gestation. (Daventer,[1] Baudelocque,[2] Dewees.[3])

The evidence of so many acute observers undoubtedly establishes the point in question. I shall therefore merely allude to Denman's[4] opinion, because of his eminence in the profession. He doubts the occurrence of menstruation during gestation, never having seen a case, and explains away the cases on record. Dr. Hamilton, of Edinburgh,[5] in his recent work, agrees with Denman.

Some little variation is observed in the discharge—it is generally rather paler than the ordinary menses. The quantity is sometimes

never menstruated, though her health had been good. After the lapse of about two years, subsequently to her marriage, she appeared to lose her health, and in the month of February was seized with sickness and vomiting, and on the following day she sustained a discharge of blood from the uterus, and it continued to flow for four days. In the following month it appeared again, and at the same time the abdomen increased in size. The subject of the case conjectured that she was pregnant, and the evacuation continued to make its appearance monthly. At the full period of gestation, she brought forth a healthy child. The lochia followed, but the menses no longer returned. This notice was written six months after the delivery."—*Comment. Bononiensi, Instit. Scient.* 1748, vol. i. p. 152.

[7] After describing a peculiar case of labour, Mr. James Reid, of London, concludes his letter to the editor of the *Medical Gazette* thus: "I may mention as another curious fact relating to this patient, that during the period of nine years that she had been married, she had never seen the catamenia till she became pregnant with this last child—after which, up to the term of quickening, they appeared regularly every month."—*Medical Gazette* for May 2, 1835, p. 146.

[8] Traité des Accouchemens, vol i. pp. 117, 118.

[1] Novum Lumen Art. Obstet. cap. 15, p. 54.

[2] M. Baudelocque states that he has met with several women who assured him that they had not had their menses periodically, except during their pregnancies. Their testimony appeared to him to deserve more credit, because they only applied to him for an explanation of the extraordinary phenomenon.—*Heath's Translation*, vol. i. p. 230.

[3] In this case the woman had never menstruated until after conception, but from that time "she had the regular returns of her catamenial period until the full time had expired." The same menstrual development recurred on the occasion of a second pregnancy.—*Dewees's Compendious System of Midwifery*, p. 97.

[4] "A suppression of the menses is one of the never-failing consequences of conception—at least, I have not met with a single instance of any woman continuing to menstruate when she was pregnant, though I know that popular opinion is against the assertion, and that exceptions to it are frequently mentioned by men of science. What gratification the human mind is capable of receiving from the affectation of singularities of constitution, which do not depend upon our will or power, and from which neither reputation nor advantage can be derived, philosophers may determine. But it is well known that in practice there is great occasion to be circumspect; for either from the misrepresentations of patients, or the credulity or vanity of writers, many medical works are filled with the most useless and improbable histories, defective in the essential article of all records—truth: and this charge hath been made in the most pointed terms against many writers on the subject of midwifery."—*Denman's Introd. to Midwifery*, 7th Ed. p. 148.

[5] Pract. Obs. on Midwifery, p. 76–212.

greater than usual,[1] but more frequently less. (Desormeaux,[2] Puzos, Stein, Gardien,[3] Dewees.[4])

In none of these cases is the discharge coagulable, or accompanied with clots.

It does not appear that there is any risk of abortion or premature labour, the *symptoms* being ordinarily much milder than previous to conception. There may be some pain in the back, and a sense of weakness generally, but not so great as to incapacitate the patient.

The recurrence of this discharge does not seem to produce much, if any effect upon the growth of the child; the majority are of the full size when born.

Pathology.—Different opinions have been broached as to the seat of the discharge. It has been said to proceed from the lower portion of the uterine cavity, before the ovum is sufficiently large to fill it; or from the vessels of the cervix, whether internal or external, (Van Swieten,[5] Frank,[6] Hoffmann,[7] Desormeaux,[8]) or from the vaginal mucous membrane. (Velpeau,[9]) I do not see how the first opinion can be in accordance with the fact of the canal of the cervix uteri being blocked up with mucus shortly after conception, or with the integrity of the *membrana decidua*. The second explanation appears to me to assign too limited a source to the discharge, though I question not that the mucous membrane covering the cervix may share with the vaginal mucous membrane the vicarious function. This view is rendered more probable by the circumstance that one of the patients, from whom Dr. Charles Johnson, of this city, removed the entire uterus, menstruated after the operation.[10]

As to the pathological *cause* of this deviation, it is more difficult to state any thing determinately. It appears to be owing to misplaced ovarian influence, and to that habit or necessity of periodical discharge which gives rise to the other varieties of vicarious menstruation. It is neither more nor less easy to account for a monthly

[1] "I have met with several instances of menstruation occurring once after conception, and am in the habit of attending two ladies, to both of whom it happened; and one of them who has borne four children, assured me that she always knew when she had become with child, by the unusual profuseness of the next period."—*Montgomery on Signs of Pregnancy*, p. 46.

See also Johnson's System of Midwifery, p. 100.

[2] Dict. de Med. vol. x. p. 394.

[3] Traité d'Accouchemens, vol. i. p. 489.

[4] Compendious System of Midwifery, p. 165.

[5] Commentaries, vol. xiii. pp. 379–469.

[6] Epit. de Morb. Human. de Metrorrhagia.

[7] Ratio Medendi, vol. iv. pt. 9, cap. 625.

[8] Dict. de Medicine, vol. xiv. pp. 84, 85.

[9] "D'un autre coté, il est egalement certain qu'on l'a vu quelquefois transuder du l'interieur de vagin ou de la vulve. Je ne vois pas même qu'il puisse venir d'ailleurs, lorsqu'une femme enceinte continue d'etre reglée jusqu'à la fin de la gestation, à moins qu'il n'y ait grossesse contre nature, ou que la matrice ne soit double."—*Traité des Accouch.* (Brussels ed.) p. 103.

[10] Dublin Hospital Reports, vol. iii. p. 479.

discharge of apparently menstrual fluid from the vaginal mucous membrane, than from the mucous membrane of the gums, the eyes, the ears, or from the surface of an ulcer.

Treatment.—As so few symptoms attend this disease, and those few so slightly distressing, very little medical interference is required. The patient, to ensure safety, should be enjoined to preserve the recumbent posture so long as the discharge continues. Her clothing should be comfortable, but not too warm; her diet nourishing, but not stimulating; and her occupations cheerful.

An attempt has been made, in different ways, to arrest the discharge. Hippocrates advises the application of cupping-glasses to the breasts.[1] Whether as effectual for this purpose, as for relieving amenorrhœa, I have been unable to decide. Mauriceau and others have advised blood-letting from the arm, but I believe that the general opinion at present is in favour of temporizing treatment.

CHAPTER V.

DISCHARGE OF WATERY FLUID FROM THE VAGINA. *Wassersucht der beschwängerten Gebärmutter*, G.

Pregnant females are occasionally attacked with a fluid discharge from the vagina, quite distinct from the leucorrhœa which has been described. (Burns.[2]) It may occur once, twice, or thrice during pregnancy, and continue for a week or two, or it may persist during several months.

The quantity discharged varies a good deal—from a few ounces to some pints "*per diem.*"

The character of the discharge is uniform—it is colourless, transparent, and bland.

A vaginal examination affords no explanation, as no deviation from the healthy condition of the parts can be detected.

It is important to the pathology of this disease to note, that in the majority of cases the abdomen does not appear to be lessened by the discharge.

The only symptoms caused by the disease are excessive weakness, and some pain in the back.

Pathology.—Two suppositions have been started to explain the pathology of this disease. *First*, it is considered by some to be an excessive secretion from the glands of the cervix uteri; and *secondly*, by others it is supposed to arise from the evacuation of either the liquor amnii or liquor chorii.[3]

[1] Dublin Hospital Reports, vol. iii. p. 479.
[2] Midwifery, p. 233.
[3] Seibold's Frauenzimmerkrankheiten, vol. ii. p. 371.

As to the first, it may be objected that most of the discharges which we know to originate in the glandular structure of the cervix are opaque and coloured, or if transparent, are of much thicker consistence than water; but that a temporary and excessive secretion of thin transparent fluid may take place from the vaginal mucous membrane, we have sufficient proof in the profuse discharge of mucus which precedes and accompanies labour. It is not improbable, therefore, that the disease under consideration may have its seat in the lining membrane of the vagina.

As to the second cause of the discharge, it undoubtedly does occasionally happen that the fluid collected between the amnion and chorion, or between the chorion and decidua, is evacuated during pregnancy, or some time before the commencement of labour.[1]

[1] "A gentlewoman of the age of thirty, on Tuesday, April 22, 1770, in the latter end of the sixth month of her fifth pregnancy, was suddenly seized with a great weight and oppression at the lower part of the abdomen, so that she was not able to walk up stairs, but was under the necessity of being carried. The morning after this happened, I accidentally called upon her, and found the abdomen considerably larger than it ought to have been for the time. She was scarcely able to walk across the room. In the afternoon she had some labour pains, and parted with near a quart of water, which came from her all at once, and continued running from her for seven days successively, from the time of her rising in the morning till the time of her going to bed at night, so as to wet sixteen or seventeen double cloths every day; but it always ceased when she lay down, either night or day. On Monday, April 29th, the running of the water ceased." On Tuesday, May 7, she had a relapse of her disorder. "In this state she continued parting with water in the manner above related, at intervals of three or four days, when it generally ran from her for the space of one day, excepting that part of it when she lay down upon the bed, till the 30th of June. After this time the water began to run from her every morning, as soon as she got out of bed, and continued all day, except when she lay down, as before, till within five days of her delivery, which happened July 15." "In the morning of July 14, she was taken ill (with labour pains) again, and parted with a greater quantity of water that day than she had ever done before." At 6, A. M., July 14, "I found the os uteri much dilated, *the waters collecting, and the membranes pushing strongly down;* her pains were very regular and strong; *the membranes came to the os externum before they broke;* and after two more pains she was delivered of a large healthy child, about 5, A. M. Since the above, the same lady has had three children. The circumstances in each were nearly the same with the foregoing case." The fluid did not coagulate on the application of heat.—*Medical Commentaries*, vol. iii. p. 187.

"It seems probable that in many of the above cases of what has been technically called *dribbling of the waters*, the membranes of the ovum may have been their source. We know that it is a peculiar function of the amnion to secrete the fluid which takes its name from it. Whether the chorion may also not sometimes take upon itself the same office, the author knows of no sufficient evidence to enable him to decide the fact. But if we do not assume it, we shall find it very difficult to account for such profuse discharges of colourless fluids as have sometimes been reported to have occurred during pregnancy; and where afterwards it has been proved, as in Dr. Alexander's case, that the amnion has sustained no solution of continuity. Analogy would lead us to suspect the existence of what might be called a dropsy of the chorion, it now being well known that the amnion is liable to become the

Dr. Davis speaks of this occurrence as highly dangerous :—"The escape in dribbling quantities of an aqueous fluid, similar to the liquor amnii, for many weeks or months before the accession of labour, is in most cases a dangerous, and often a fatal affection of the pregnant state."[1] This is at variance, however, with other authorities, who do not generally consider this disease as of so serious a character.[2]

It is clear, then, that this may be a source of the fluid discharge of which we are treating.

Further, the membranes have occasionally given way, and the liquor amnii has been evacuated, without bringing on labour. Pro-

agent of a morbid discharge, which has already received the designation of dropsy of the amnion."—*Davis's Obstetric Medicine*, vol. ii. p. 903.

See also Mauriceau, Mal. des Femmes grosses, vol. i. p. 178, vol. ii. p. 561.

Puzos, Traité des Accouch. pp. 86, 87.

[1] Davis's Obstetric Medicine, vol. ii. p. 901.

[2] "A woman, of 28 years of age, was seized in the fourth month of her pregnancy with a discharge of very clear lymph from the vagina, so that she voided of this transparent fluid about two pounds daily. On the third day after the accession of this flux, she was attacked with fever, in consequence of which it sustained an inconsiderable diminution of its quantity, but was not suppressed. The fever was repressed by bleeding and the use of cinchona bark. The flux of lymph, however, continued during the whole of her pregnancy, but during the latter months, only in the quantity of about half a pound daily. About the eighth month the patient fell into a violent passion, which was followed by the accession of labour pains, and she was delivered of a healthy living child soon afterwards."—*Comment. de Rebus in Scient. Nat. et Med.* vol. iii. p. 648, Leipsic, 1754.

Dr. D. B. Scharf, in the Nuremberg and Leipzig Miscellanies, mentions a similar accompaniment of pregnancy, and states that he had few hopes of a favourable termination. He prescribed certain remedies, which caused an abatement of the discharge, though it did not entirely cease till the full period of pregnancy, when a fine healthy child was born."—*Ephem. Germ.* Dic. 2, An. 2. p. 250.

The most recent case of this kind with which I am acquainted is recorded by Dr. Petel, of Chateauroux, in the Gazette des Hospitaux for July, 1838: "Theresa Nonain, æt. 39, of good constitution, and the mother of three children, was attacked by vomiting in the month of July, 1833, and towards the end of September (not having menstruated for four and a half months) there was discharged from the vagina nearly three pints of limpid water. Pains similar to those of labour came on, but ceased after a while, without having produced any effects. From this time the discharge continued night and day, to the amount of two or three pints every twenty-four hours. It escaped involuntarily from time to time, and without pains. The urine was always sufficiently abundant, but the fæces were very hard. Her nourishment consisted of a little milk in the morning, and some light aliment in the evening, far less in amount than the fluid which escaped from the vagina. Her appetite at this time had almost ceased; her complexion was sallow, and she was without strength. She felt no fœtal movement; her figure increased but little, and "ballottement" could not be felt; and consequently it was doubted whether she was pregnant; but on the 5th of Feb., 1833, she was seized with labour pains, and *the ordinary amount of liquor amnii* was discharged, with a little blood. The next day she was delivered of a living child, which, with the mother, did well." She must have lost from 300 to 390 pints of water at least.—*Encyclographie*, Aug. 1838.

fessor Burns, of Glasgow, remarks: "I have known instances where, after a fright or exertion, a considerable quantity of water has been suddenly discharged, with subsidence of the abdominal tumour, or feeling of slackness, and even irregular pains have taken place, and yet the woman has gone on to the full time."[1]

Dr. Pentland, formerly master of the Dublin Lying-in-Hospital, has recorded a similar case.[2]

In enlargement of the uterus from hydatids, (simulating pregnancy,) this occasional discharge of clear fluid is a prominent symptom.

Diagnosis.—The principal grounds upon which our diagnosis must be founded, are the character and quantity of the discharge, its frequeney of return, or persistence, the effect upon the size of the abdomen, and the integrity of the membrane, if ascertainable. If the discharge be sudden and profuse, and accompanied with subsidence of the abdomen and rupture of the membranes, we may conclude that the liquor amnii has escaped; but if the discharge is smaller, escaping more gradually, and not affecting the uterine tumour, we can only suppose it to proceed from the vagina or chorion. Between these two sources it may be impossible to decide.

Treatment.—For discharges proceeding from within the membrane we have no remedy. The utmost we can do is to keep the patient quiet, dry, and clean. An occasional anodyne may be useful.

If the vagina be the seat of the disease, we may employ some astringent injection, (decoction of green tea, oak bark, solution of alum, nitrate of silver, &c.) and in some cases we shall succeed in arresting the discharge, but not in all.

The bowels must be kept free, and the patient cautioned against making much exertion.

CHAPTER VI.

EXCESS OF LIQUOR AMNII, OR DROPSY OF THE AMNION.

Hydramnios, Fr. *Anhaufung des Fruchtwasser*, G.

Although the abdominal distention caused by the enlarged uterus in most cases is attended with some slight inconveniences, still, with a little management, it is not intolerable. But in some cases the quantity of liquor amnii is so much beyond the ordinary amount, that considerable mechanical distress results therefrom.[3]

This is quite distinct from the collection of fluid between the

[1] Midwifery, p. 244.

[2] Dublin Medical and Physical Essays, No. I. Art. 1-3.

[3] Dr. Davis has given the following abridgment of a case by M. Duclos, to be found in the Bull. de la Fac. de Med. for 1838:

"A lady, aged 25 years, of a weak and lympathic constitution, was seized

amnion and chorion, to which reference has already been made. As a well marked disease it is rare, but minor degrees of it are not

in the seventh month of her sixth pregnancy with dry and frequent cough, which disturbed her at night. To the cough was added fever, intense thirst, dry skin, scanty and lateritious urine, œdema of the lower extremities, loss of colour, and sleeplessness. Soon afterwards the abdomen became hard, tense, painful, and much enlarged, and the respiration at the same time so tight and laborious, that the patient could no longer rest in the horizontal posture. Hiccup, palpitations, vomitings almost incessant, rending pains in the loins, cessation of the motions of the fœtus, anxiety, faintings, and aphonia ensued. On examination in this deplorable state, Dr. Duclos recognised an excessive distention, with more than ordinary elevation of the uterus. This organ seemed to occupy the whole of the cavity of the abdomen. Its orifice was directed backwards, and towards the base of the sacrum; and the fluctuation of a fluid within its cavity was abundantly perceptible. A consultation was instantly summoned. The pulse was then small and weak, the face was shrunk and dejected, the respiration short and hurried, and suffocation seemed actually impending on hazarding any change of position. The nature and peril of the case were unanimously agreed on by the consultants; and premature delivery, while acknowledged to be full of danger, was indicated as the surest resource. Yet some diversity of opinion as to the best means of inducing labour existed. How, in fact, it was enquired, was the dilatation of the uterine orifice to be effected, in its present high and unfavourable situation? Extraordinary efforts, such as might prove fatal to the patient in her exhausted state, would be evidently requisite for this purpose. Hence the attempt was considered as highly objectionable by Dr. Duclos, until labour should commence—an event which the extreme distention of the uterus would probably soon determine. The consultation was therefore adjourned till next morning. On the subsequent day, the question of artificial delivery was again discussed; it was decided to wait till the os uteri should evince a tendency to dilatation. The patient now received the sacrament, and soon afterwards sank into a state of syncope—on recovery from which, incipient dilatation of the uterine orifice was perceptible. On striking the abdomen, fluctuation could be easily distinguished throughout its whole extent. Observing a return of the suffocation, Dr. Duclos determined on immediately rupturing the membranes, and evacuating the liquor amnii at four several times, with an interval of fifteen minutes between each. With his finger introduced into the os uteri he regulated the evacuation—while the process was seconded by the pressure of a napkin encircling the abdomen. In this manner fourteen pounds of fluid were discharged, independently of what escaped without being received into a basin. The vomiting immediately ceased, and the respiration was relieved. During five hours of subsequent repose, the strength was recruited by frequent administration of light broth, with the addition of small quantities of wine. The cough and palpitations had greatly subsided; but as the uterus seemed no longer capable of making an effort, the termination of the delivery was resolved upon. The uterine orifice, thin and unresisting, was easily dilated, and a small child was extracted, with the assistance of the forceps. The child, a female, although living, was puny and feeble, with very slender limbs. From the calculation of the mother, it had nearly attained its seventh month of uterine growth. Immediately after delivery, the bandage round the patient's abdomen was somewhat tightened; and an attempt was made to excite the action of the uterus by external frictions, and by titillations applied to the orifice of that organ, aided by an occasional exhibition of thin soup, together with some wine. Compresses moistened with brandy were applied to the abdomen; and a few hours of refreshing sleep, sufficient to dissipate completely the hiccup and the palpitations, were enjoyed. The lochia were very abundant, but almost serous. The flow of urine on the following day was

very uncommon; at least the difference of the patient's size in two pregnancies is often no otherwise explicable than upon the supposition of the liquor amnii being more abundant at one time than another.

Cause.—There can be no doubt that the proximate cause is the excessive action of the secreting vessels of the amnion;[1] but whether this is invariably the result of inflammation may be doubted, though the researches of M. Mercier would appear to favour this opinion.[2] It would appear also that it may be connected with diseases of the placenta, such as cysts, tubercles, induration, dropsy, &c. (Burns.[3])

It is not improbable that some disease in the mother, as lunacy or syphilis, may be amongst the more remote causes of this disease; and we have ground for this supposition, in the fact of its recurrence in the same woman. (Burns.)

Symptoms.—As we might expect, the principal symptoms are dependent upon the mechanical distention of the abdomen. The uterus is much larger than usual, and proportionably more weighty, rendering the patient very uncomfortable in the upright position and in walking.[4] If it be the third or fourth gestation, and the abdominal integuments be tolerably flaccid, the uterus will fall forward, causing what has been called "pendulous belly,"[5] and adding greatly to the distress.

In most cases some inconvenience is felt from the increased pressure upon the bladder, and in some from pressure of the stomach and intestines.

It would naturally be supposed that the greater size of the abdomen would more decidedly obstruct the various trunks of the lower extremities, and so occasion the legs and feet to swell more than usual; but this does not appear to be the case. (Puzos,[6] Burns.[7])

The constitutional symptoms are not very remarkable: the tongue is generally whitish, the urine scanty, and the digestive functions imperfectly performed.[8]

copious, if not profuse. On the third day after delivery the œdema of the extremities had considerably diminished, and the secretion of milk had duly taken place. In ten days afterwards the œdema had entirely disappeared, but the lochia continued to flow till the fifteenth. In six weeks the patient was quite restored. At the end of two years she again became pregnant, and went through the process of parturition in the most favourable manner." —*Davis's Obstetric Medicine*, p. 906.

[1] Consequently it is rather a disease of the ovum than of the uterus, and would have been omitted here but for the inconvenience caused by it.

[2] Journal Gen. de Med. vol. xliii. p. 165, vol. xlv. p. 256. See also a case by M. Davilliers, Jour. Gen. de Med. vol. xlii. p. 252; and one by M. Desmarais, in Recueil Periodique de la Societé de Santé, vol. vi. p. 357.

[3] Midwifery, p. 243.

[4] See Scarpa's Case in Journ. Comp. des Sciences Med. vol. i. p. 91.

[5] Ante, p. 14.

[6] Traité des Accouchemens, p. 86.

[7] Midwifery, p. 242.

[8] Jöerg, Handbuch der Krankheiten des Weibes, p. 497.
Siebold, Frauenzimmerkrankheiten, vol. ii. p. 368.
Carus. Gynæcologie, vol. ii. p. 238.

The infant, however, does not escape so well: it is either very feeble or diseased, when born at the full time, or it dies before the completion of utero-gestation. (Mauriceau,[1] Puzos,[2] Burns,[3] Bunsen, Kyll.)

[1] Mal. des Femmes grosses, vol. i. p. 178.

[2] "L'amas de serosités dans la matrice peut se faire dans une quantité très considerable, et c'est presque toujours aux depens de l'enfant, qui profite moins dans cette hydropisie de matrice qu'il ne se flottoit que dans une quantité d'eau ordinaire."—*Puzos, Traité des Accouchemens*, p. 86.

[3] "All of these causes do not operate uniformly to the same extent, but the fœtus suffers in proportion to their operation. It is either born very feeble and languid, and is reared with difficulty; or it dies almost immediately; or it perishes before labour commences; and this is generally the case where the diseased state exists to any great degree. The period of the child's death is usually marked by a shivering fit, and cessation of motion in utero, at the same time that the breasts become flaccid. Afterwards irregular pains come on, with or without a watery discharge. Sometimes the woman is sick or feverish for a few days before labour begins."—*Burns's Midwifery*, 9th ed. p. 242.

In the British and Foreign Medical Review for October, 1839, pp. 564, 565, there are four cases of "morbid accumulation of the liquor amnii," extracted from the Neue Zeitschrift für Geburtskunde, Band 7, Heft 1. Three cases are by Dr. Bunsen, of Frankfort-on-the-Main, and one by Dr. Kyll, of Cologne. In case 1, the placenta was very large, and the child hydrocephalic: in a subsequent pregnancy, the placenta was still larger, but the quantity of liquor amnii was not excessive. The child was very feeble. Case 2: child born with ascites, and lived only twenty hours. The placenta was very large. Case 3: The child was healthy. Case 4, I shall extract: "The patient, a lady æt. 28, first came under Dr. Kyll's care in consequence of having been infected with syphilis, by a girl whom she had employed to draw her breasts after her first confinement. After having suffered from this disease for eight months, she applied to Dr. Kyll, who prescribed corrosive sublimate with advantage; but when nearly well, she aborted, at the third month of her second pregnancy. Three months afterwards, having perfectly recovered, she became again pregnant, and suffered much during this pregnancy from varicose veins of the thighs. Venesection, however, afforded her great relief. At the end of the sixth month, without any assignable cause, the liquor amnii began to drain away, two days after which, labour set in, and a female child was born, which struggled a little, and then died. The expulsion of the child was accompanied with the escape of a very large quantity of liquor amnii. At the expiration of two hours, the placenta, which was universally adherent, was removed, when Dr. Kyll was struck by its remarkably large size. *The circumference of the organ was more than a third greater than natural, and its thickness was double that of an ordinary placenta.* It was of a pale red colour, and of a spongy structure, but on dividing it, its tissue appeared perfectly natural, save that the blood-vessels were larger than usual, as were also the umbilical arteries and veins, although the child wanted three months of the full term. Three days after delivery, the patient lost a considerable quantity of blood from the uterus, but eventually she perfectly recovered. The large size of the abdomen of the fœtus had already attracted Dr. Kyll's attention, and on making an examination of it, a large quantity of straw-coloured fluid was found in its cavity, and between the folds of the omentum. The liver was very large, occupying the whole abdomen, and reaching downwards nearly to the bladder; but its substance, when cut into, presented no sign of inflammation, nor any other change in structure than great development of its vessels. This unusually large size is referred by Dr. Kyll to the hypertrophy of the

Whether the injury arises from pressure, from the fluid being less nutritious. or from some other cause, it is difficult to say.

Besides the inconveniences resulting from this disease during pregnancy, it sometimes occasions delay in labour, (Merriman, &c.) from the too great stretching of the muscular structure of the uterus —which, however, is easily remedied—and flooding afterwards, from a kind of paralysis from previous over-distention, which interferes with the due contraction of the womb.

Diagnosis.—The principal diagnostic marks of this disease are the disproportion of the size of the uterine tumour to the period of pregnancy, the presence of certain signs of pregnancy ; and in some cases the situation of the child (Burns,[1]) and the feebleness of its movements.[2]

It may be distinguished from *ascites* by the presence of the signs of pregnancy. If we find the defined uterine tumour, "ballottement," and the change in the breasts, we can have no doubt of its being more than ascites.

Treatment.—It does not appear that this disease is much under the control of medicine. Various means are recommended, less with the hope of curing than for the purpose of mitigating certain distressing symptoms, or improving the general health. If the patient be feverish, or if there be much pain in the uterus, the abstraction of a few ounces of blood from the arm, or by cupping from the sacrum, will be found beneficial. (Burns.[1])

placenta, and the consequently increased quantity of blood which the liver would receive. The enlargement of the placenta is, in his opinion, owing rather to congestion than to inflammation, since the results of inflammation are obliteration of vessels from exudation, and consequently diminished nutrition of the organ; owing to which it shrinks, and its structure becomes more compact and firmer than natural, sometimes attaining to an almost cartilaginous hardness." "Inflammation involves some portions only of the placenta, while hypertrophy extends to the whole organ, which is increased in all its dimensions; its vessels are often enlarged, and its tissue rendered spongy, and easily lacerable, though neither infiltration nor hepatisation of its substance exists."

[1] "In some instances the child occupies the upper part of the uterus, and the water the under, at least during labour. Twice in the same woman, in succeeding pregnancies, I found the child contained in the upper part of the uterus, and embraced by it, as if it were in a cyst, whilst several pints of water lay between it and the os uteri. When the water came away, filling some basins, then the child descended to the os uteri, but was born dead, with the thighs turned firmly up over the abdomen, and other marks of deformity."—*Burns's Midwifery*, 9th Ed. p. 242.

[2] "Les signes que l'eau est immediatement avec l'enfant dans les membranes sont le peu de mouvement de l'enfant quoiqu'il soit en vie, ou nul mouvement quand il est mort, d'ailleurs l'enfant perit plus communement dans l'hydropisie de cette espece, que dans celle qui se trouve entre les deux membranes ou entre les membranes et les parois de la matrice; et le ventre est d'une grosseur enorme, sans que les cuisses et les jambes soient fort enflées, et sans que la respiration soit extremement genée, parceque le poids du ventre l'entraine plus sur les cuisses qu'il ne le porte du coté du diaphragme."—*Puzos, Traité des Accouchemens*, p. 89.

[3] Midwifery, p. 243.

Tonics have been used with benefit to the health. Diuretics seem to have failed completely.

Some good may be done by restricting the patient to a dry diet. Dr. Burns speaks rather favourably of the use of the cold bath.

If there be any suspicion of a syphilitic origin, it may be well to submit both parents to a mild course of mercury, "conducted prudently."

Should the distention be enormous, and the distress very great, we shall be justified in having recourse to the induction of premature labour, especially because in those cases the child is generally lost when left to nature. Whilst this operation is in our power, it appears to me quite unjustifiable to have recourse to abdominal paracentesis, as recommended by some authors. (Scarpa, Desmarais,[1] Davis.[2])

Should we see the patient for the first time at the commencement of labour, and find, as would be the case,[3] the excessive accumulation of liquor amnii impeding the action of the uterus, we must rupture the membranes at once. It will be necessary to watch carefully until the pains set in, lest, in the emptied and flaccid condition of the uterus, flooding should occur.

When the uterus has been emptied, and the patient is convalescent, we should very carefully consider whether any thing can be done for preventing the recurrence of the disease.

If syphilis be in question, mercury of course must be used. Probably more benefit will be derived from counter irritation to the sacrum, and vaginal injections of cold water, or the use of the "bidet," than from any other plan of treatment.

Professor Burns says, "When it proceeds from some more latent cause, I think it useful, for preventing a repetition of the disease, to make the mother nurse, even although her child be dead."[4]

[1] Receuil Periodique, vol. vi. p. 349. See also Baudelocque's Memoirs in same volume.

[2] "Several cases of dropsy of the amnion have occurred, and have been recognised as such, subsequently to the date of M. Mercier's papers. The author has seen two cases of it within the last few years; one in consultation with Mr. Langstaff, which was soon afterwards published in the transactions of the Medico Chirurgical Society by that gentleman; and the other in the practice of the Maternity Charity. The former was treated by abdominal paracentesis, which speedily proved inductive of labour, and the patient recovered from the immediate effects of her confinement; whilst the other was treated by the operation for the induction of premature labour, of which the result proved in every respect successful, excepting that the child, a poor meagre child, of about 7 months' growth, was still born."—*Davis's Obstetric Medicine*, vol. ii. p. 906.

[3] See Denman, Burns, Merriman, &c. &c.

[4] Midwifery, p. 243.

CHAPTER VII.

RHEUMATISM AND SPASM OF THE UTERUS. *Rhumatisme de l'Uterus.* Fr. *Rheumatismus des Schwangern Gebärmutter*, G.

Rheumatism attacking the pregnant uterus has been very slightly noticed in these countries, though on the Continent it has been observed and described by several distinguished individuals. Both Alphonse le Roi and Chambon seem to have observed it, but from them it did not receive that attention which it deserved. In Germany it has been described by Wigand,[1] Carus,[2] Schmidtmuller,[3] Joerg, Velten,[4] Haase,[5] Betschler,[6] Henne,[7] Busch,[8] and Witcke. M. Dezeimeris[9] has published a very able paper in a late number of a French periodical, in which he quotes cases and analyses the labours of his predecessors. Of his researches I shall freely avail myself in this chapter.

[1] Bertrage zur theoretischen und pratischen Geburtshülfe, &c.
[2] Diss. de Uteri Rheumatismo, Gynæcologie, vol. ii. p. 232.
[3] Handbuch der Medicinischen Geburtshülfe, vol. i. b. 1. ch. 7.
[4] In Rust's Magazine, 1823, vol, xiv. p. 537.
[5] Zeitschrift für Geburtskunde, vol. iv. p. 435, vol. vii. p. 7.
[6] Annalen der Klinischen Anstalten der Universität der Breslau, &c.
[7] In Siebold's Journal, vol. viii. p. 161.
[8] Die Geburtshülfliche Klinik an den Konig. Fried. Wilh. Universität zu Berlin.
[9] L'Experience Journal de Med. et de Chir. May and June, 1839.

As a good example of the disease, I give the following case, taken from Siebold's Journal, vol. iv. p. 446:—"La femme Dorothie Sch.....de Marburg, agée de 33 ans, enceinte pour la quatrieme fois, à la suite d'un refroidissement, eut, quatre semaines avant le terme de sa grossesse, une douleur *tensive et avec elancements dans la matrice accompagnée de fievre.* Les diaphoretiques diminuerent cette douleur, mais elle fut remplacée par d'autres qui se fixerent *tantot sur les extremities superieures, tantot sur les inferieurs.* Lors du travail du parturition, les contractions uterines furent *excessivement douloureuses*, et *de les premiers moments du travail elles arrachaient des cris à la malade, sans determiner la moindre dilatation de l'orifice uterin. On ne pouvait toucher l'uterus* meme avec la plus grande precaution, *sans causer une forte douleur.* Une saignée de trois pallettes, et des fomentations chaudes, avec des espèces emollientes, calmèrent ces douleurs, amenèrent des douleurs veritables de parturition, et l'accouchement se termina en peu de temps. Les premiers jours qui suivirent furent bons; la troisieme jour la *douleur rhumatismale* de l'uterus reparut, et exigea l'emploi de la saignée, de l'ammoniaque et du calomel. Tout à coup, les douleurs de la matrice cesserent, et *la maladie prit son siege aux muscles des deux avant bras*, avec assez de force pour mettre la malade dans l'impossibilité de tenir elle même son enfant au sein. *Elles disparurent aussi brusquement de la* pour se porter sur le genou gauche. Toute indisposition cessa alors dans le reste du corps, mais le genou gonfla, les douleurs y devinrent intolerable; on aurait pu craindre une exudation dans l'article, si l'on n'eut ete à temps par l'application d'un grande nombre de sangsues et par des frictions avec l'onguent napolitain." For other cases see *Carus de Uteri Rheumatismo*, p. 23; *Dezeimeris in l'Experience*, May 1839, p. 130.

"Rheumatism," says Wigand, "may attack the fibres of the uterus, as well as the muscles and their sheaths, marking its presence, as in other parts, by pain, the effect of which is to impede the contractility and motion, by increase of heat, swelling, &c. Along with rheumatism of the uterus, there sometimes exists a general affection of the same nature; but more frequently the uterus, its appendages, and the organs immediately surrounding it, are affected, owing to its great irritability during gestation."

It may occur at any period of gestation, but is much more frequent towards the termination, when the uterus has acquired its maximum distension. There can be but little doubt that many examples of what are called false pains, are in truth instances of this rheumatic affection of the womb. (Dezeimeris.)

Causes.—Probably the principal of these is cold, acting upon an organ whose nervous power, and consequent irritability, has been so greatly increased. It has been especially noticed, that the figure of pregnant females, by projecting the clothes from the lower part of the body, is a peculiar cause of cold. (Wigand,[1] Joerg,[2] Busch.[3]) The disease was remarked by Velten during a general epidemic of rheumatism.[4]

Symptoms.—If the attack be mild, the patient will complain of sudden shooting pains in the region of the uterus, coming on in paroxysms, with intervals of more or less complete ease. In some cases the spasm is limited to a small space; in others it affects the organ generally.

If it be more severe, it may be preceded by head-ache, uneasiness, giddiness, and general irritability.[5] Suddenly, without apparent

[1] "Outre les causes generales des affections rhumatismales, il y a une particuliere pour la rhumatisme de l'uterus, c'est la facilitè avec laquelle cet organe, sous les tegumens amincis de l'abdomen, ressent l'impression du froid, dans les derniers temps de la grossesse, le ventre n'en etant garanti, dans la lieu qu'il occupe, que par les vetemens excessivement legers qui s'y appliquent immediatement, tandis que la region lombo-sacreè est souveut mal protegèe par des camisolles trop courtes."—*Wigand in Dezeimeris.*

[2] Krankheiten des Weibes, p. 506.

[3] Handbuch der Entbindungskunst, p. 266.

[4] Rust's Magazin für die ges. Heilkunde, 1823, vol. xiv. p. 537.

"Dans les derniers mois de l'annèe, 1821, le Dr. Velten remarqua que la constitution catarrho-rhumatismale exercait une grande influence sur l'uterus aux diverses periodes de la grossesse. Chez les femmes grosses de quelques mois seulement, dans trois cas, le mal se manifesta sans movement febrile notable, par un besoin frequent de rendre les urines et par la douleur qui accompagnait leur emission. La chaleur de la chambre et du lit, un regime general diaphoretique, une infusion de fleurs de sureau avec addition de liqueur de mindererus, retablirent l'action de la peau et dissiperont bientot le mal."

In the case related by Professor Henne, of Königsberg (*Siebold's Journal*, vol. 8, p. 161,) the bladder was first affected, then the uterus.

[5] "Les convulsions (spasms of uterus during pregnancy) sont quelquefois precedeès de pesanteur de tête, d'eblouissement, de vertiges, de vivacitès, d'impatience sans motifs, qui annonce une pléthore, ou une exces d'irritabilité dans le systeme cerebral. Plus souvent, elles se manifestent subitement, sans

cause, the patient will be seized with severe pain in the region of the uterus, of a spasmodic character, with distinct contractions of the uterus, and so much suffering during the whole of their duration, as will distinguish them from real labour pains.[1] Wigand says that there is no dilatation of the neck of the uterus; but in this Carus differs from him,[2] and points out the possibility of mistaking rheumatism for the commencement of labour. It does not follow, however, that the expulsive efforts thus inauspiciously begun, will continue; though, if neglected, abortion or premature delivery has sometimes resulted. The proper remedies will generally arrest the uterine action, and the os uteri will resume its usual state.[3] The irritation is generally propagated to the bladder, occasioning an urgent desire to make water, and pain when the desire is gratified. (Joerg, Velten, Henne.) The intestines also sometimes sympathise with the womb, and then the patient may suffer from colic, or diarrhœa, or both. The motions of the child are a source of great torment, owing to the increased sensibility of the womb—and from some sympathy

symptômes precurseurs, par des mouvemens dereglés dans les membres. Le figure se decompose, les traits s'alterent et prennent un caractere convulsif: tout le corps se raidit et il se fait dans le ventre, et specialement dans la region uterine, des mouvemens qui correspondent à ceux du corps." —*Nauche, Mal. des Femmes*, vol. ii. p. 449.

[1] "Resumès en peu de mots, les signes caracteristiques du rhumatisme de l'uterus sont les suivants: sans qu'aucune violence ait etè exerceé sur cet organe, il survient un *endolorissement general de la matrice*, qui ne support pas d'etre palpèe, cet etat est suivi de *contractions uterines* assez regulieres, si ce n'est *qu'elles sont accompagnèes* non *pas seulement vers leur fin* (comme dans l'etat naturel) *mais des teur debut* ou *à leur milieu, d'une vive douleur qui arrete, enchaine le mouvement.*"—*Wigand in Dezeimeris Essay.*

[2] Gynæcologie, vol. ii. p. 232.

[3] "Dans un cas de ce genre negligé pendant cinq jours, chez une femme enceinte pour la premiere fois et dans le cinquieme mois de sa grossesse, ou les douleurs de travail etaient deja survenues, ou l'orifice uterine etait ouvert au point d'admettre le doigt explorateur, et tres sensible au moindre attouchement, les douleurs furent arretèes par l'emploi des moyens indiqués, auxquels on ajouta un peu d'opium, emploi qui fut suivi des sueurs abondantes. En pratiquant de nouveau le toucher le lendemain, on trouva que l'orifice uterin s'etait ferme et qu'il avait perdu sa sensibilité de la vieille."—*Velten, in Dezeimeris Essay.*

"Le rhumatisme *durant la grossesse* se montra dans *une serie* des cas et se fit reconnoitre principalement a l'endolorissement de la matrice, ordinairement avec symptomes rhumatismaux febriles, mais quelquefois sans ces derniers. Dans deux cas, il survint, plusieurs semaines avant l'accouchement, des douleurs uterines tres fortes, qui persisterent tout un jour, determinerent l'ouverture de l'orifice uterin et offrirent ainsi les apparences d'un commencement de travail. En meme temps que l'affection rhumatismale fut calmée, l'orifice de la matrice se referma, les douleurs uterines cesserent et la grossesse se continua jusqu' à son terme naturel. Le traitement debuta generalement par une saignèe, il consista ensuite dans l'emploi des diaphoretiques, de l'ipecacuanha, avec les sels," &c.—*Busch, Die Geburtshülfliche Klinik, &c.* 1837.

(it may be supposed) with the mother, it not unfrequently happens that these motions are peculiarly lively.[1]

Joerg has remarked that the child is less frequently injured by rheumatism than by simple inflammation of the uterus.[2] In the mild form there is little or no impression made upon the constitution; but the more severe attack occasions great disturbance. The pulse is quickened, and the skin made hot; the patient is sleepless and restless. Nauche adds, that the irregular contraction of the womb is sometimes extended to the limbs.

When the affection occurs during parturition, the pains are as it were arrested; they become tedious, ineffective, and often sudden and interrupted, occasioning more suffering than usual. The patient is hot, thirsty, and irritable, unable to remain long in one posture—the pulse quick, and either full, soft, and undulating, or small and hard, (Wigand.) The uterus becomes very tender, the weight of the bed clothes occasioning much pain. The sensibility may extend to the neck, rendering examination very painful, (Dezeimeris.) During a paroxysm the uterine tumour feels much harder than usual. If the case be left to itself, we shall find the pains become weaker, or even entirely suspended for some hours. If the patient should fall into a perspiration and sleep, the natural pains will recur, and the delivery terminate favorably.[3]

The *Prognosis* is in almost all cases favourable, except where the patient may have been neglected until the rheumatic contractions have caused labour to commence.

Diagnosis.—It will be of some importance to distinguish an attack of rheumatism of the uterus, from inflammation, and it may not at first sight always be easy to do so. Generally speaking, when inflammation occurs during gestation, it is more limited, and consequently the pain will be more localised than in rheumatism. Then the occurrence of paroxysms, as a marked feature of the

[1] Burns's Midwifery, p. 276.

[2] Krankheiten des Weibes, p. 505.

[3] "Deux fois," dit le Dr. Haase (of Dresden,) "le rhumatisme de l'uterus fut observé des avant le travail de parturition, il rendit l'accouchement difficile, mais il ceda a des onctions faites avec une pommade opiacée et à l'emploi interieur du laudanum; dans un de ces cases, neanmoins, il fallut terminer l'accouchement avec le forceps."—*Gemeinsame Deutsche Zeitschrift für Geburtskunde*, vol. iv. p. 435. *Dezeimeris.*

"Le rhumatisme de l'uterus s'est presenté plus frequemment lors de l'accouchement et le faisant trainer en longueur, particulierement pendant la premiere et la seconde periode de la parturition. Les contractions uterines etaient excessivement douleureuses, la matrice etait sensible au toucher, la peau etait seche, et ordinairement il survenait bientot des symptomes febriles. Ou dut assez souvent accourir à la saignée, apres quoi on employait l'ipecacuanha ou le vin emetisé, et presque toujours ce traitement etait suivi de succés. Dans quelques cas neanmoins le mal resistait pendant toutes les periodes du travail et l'on fut quelquefois obligé de terminer l'accouchement avec le forceps. On observa aussi plusieurs cas dans lesquels le rhumatisme degenera en une veritable inflammation, laquelle se prolongea à la suite des couches."—*Busch, Die Geburtshülfliche Klinik*, p. 40.

disease, is peculiar, for the most part, to rheumatism. Again the setting in of rheumatism is much more sudden than that of inflammation.

An attack very similar in symptoms to rheumatism of the womb occasionally occurs just before labour comes on; and notwithstanding, the labour is easy and natural. In such cases it has been concluded that the bladder, and other parts adjacent to the womb, have been affected, but not the womb itself. (Wigand, Dezeimeris.[1])

Treatment.—Our principal reliance must be placed upon moderate antiphlogistic measures, aided by sedatives and diaphoretics. If there be much feverishness, or if the pain be excessive, and nothing in the patient's condition forbid it, blood may be drawn from the arm, in amount varying from 6 or 8oz. to 12 or 14oz.[2]

After this, a gentle diaphoretic may be given at intervals during the day, and at bed-time it may be combined with an anodyne. Dover's powder answers both purposes exceedingly well. (Joerg.) If the pain be severe, it will be necessary to give anodynes in considerable doses, and perhaps the best mode of administration is in the form of enemata. An opium or belladonna plaster to the abdomen will be found useful, carefully avoiding the impression of cold, (Wigand;) or an opiate lotion or liniment may be used. Counter irritation to the sacrum is recommended. The bowels must be kept free by gentle laxatives. In addition to this exhibition of medicines, the patient must be warmly clothed. The bed in which she lies must be kept comfortably warm—warm flannel should be applied to the abdomen, and round the hips, and bottles of hot water, or hot bricks, applied to the feet. A warm drink of whey, or other bland fluid, should be given occasionally, and especially at bed time. The diet should be light and nourishing, but without stimulants. In a report by Professor Busch, of the Berlin Lying-in Charity, published in the *Lancet* about a year ago (I do not recollect the number,) it was stated that in consequence of rheumatism of the uterus, it had

[1] "Une remarque qui n'avait pas echappè à l'esprit d'observation de Wigand, c'est que, dans certains cas ou des femmes se plaignaient depuis quelques jours avant l'accouchement de douleurs dans le ventre, accompagnèe de fievre, et de disposition rhumatismale, l'accouchement, contre toute attente, s'est faite de la maniere la plus naturelle et la plus prompt cela tient à ce que la matrice elle meme n'etait point le siege de l'affection, et que celle-ci residait dans les parois abdominales la vessie et la rectum."—*Dezeimeris, L'Experience*, June 1839, p. 144.

[2] "The practice, even when the case is clearly spasmodic, consists in detracting blood, and after opening the bowels, giving effective doses of opium, either by the mouth or in glysters, and this remedy must be repeated as often as neceesary."—*Burns's Midwifery*, 9th Ed. p. 276.

"Le traitement le plus efficace, selon Wigand, consiste dans l'usage des boissons chaudes et dans l'administration de l'opium uni à l'ipecacuanha, precedès d'une saignee dans le cas ou il existe de la plethore ou il parait y avoir disposition à une etat inflammatoire."—*Dezeimeris, L'Experience*, June 1839, p. 144.

been found necessary to induce premature labour. Such a case must be extremely rare, as I have met with no other on record.

The treatment of the disease, when it sets in during labour, does not vary materially from that described above—bleeding, opiates and sudorifics being our main resource. It appears that neither form is very obstinate.

CHAPTER VIII.

HYSTERITIS. *Inflammation de la Matrice*, Fr. *Entzündung der Gebärmutter*, G.

I have already described inflammation of the womb, as it occurs in the unimpregnated uterus, and must hereafter describe puerperal hysteritis; so that were it not for some practical differences, I should scarcely have thought it worth while to occupy another chapter with it. But there are some peculiarities about the disease, in pregnant women, which demand a careful notice.

As we might expect from the anatomical and physiological changes which take place after conception, and especially from the higher degree of irritability which the uterus acquires, the occurrence of inflammation is much more frequent during gestation than in the unimpregnated state, though less so than after delivery. (Joerg,[1] Siebold.[2])

It would seem that females of a sanguine temperament are most liable to its attacks.

The disease very seldom occupies the entire uterus, except in the very early months; subsequently, the more advanced the pregnancy, the more limited is the affection. (Joerg.[3])

It is generally seated in some portion of the body or fundus, often that part to which the placenta is attached, (Siebold,[4] Busch,[5]) and at a late period only, in the lower portions or cervix, owing probably to the pressure against the upper outlet of the pelvis. (Joerg.) That this portion should be less frequently the seat of inflammation, might be anticipated from its lower degree of vascularity and irritability. It is worthy of remark, however, that the os uteri is never closed in consequence.

The seat of the inflammation is the muscular tissue of the womb, though the other tissues may be involved.[6] The character of the

[1] Krankheiten des Weibes, p. 470.
[2] Frauenzimmerkrankheiten, vol. ii. p. 275.
[3] Krankheiten des Weibes, p. 470.
[4] Frauenzimmerkrankheiten, vol. ii. p. 350.
[5] Handbuch der Entbindungskunst, p. 276.
[6] "The seat of inflammation of the impregnated uterus is either the external or internal membrane, or the muscular tissue. In the first case the inflammation is more of an erysipelatous character; in the latter, of a rheumatic or phlegmonous. The attack also may be either idiopathic or symptomatic."—*Siebold, Frauenzimmerkrankheiten*, vol. ii. p. 350.

inflammation has been variously described, but I do not know that these varieties are sufficiently ascertained, to be of any practical value.

Causes.—Cold, mechanical injury, &c. may give rise to it; or the inflammation may extend itself from neighbouring organs.

Symptoms.—The patient complains of a severe and constant pain or stitch in some part of the abdominal tumour, limited generally to a small space—tender on pressure, increased upon walking and by the movements of the child.

The pain does not come on in paroxysms. It sometimes extends to the back and groins.

Should the inflammation occupy the lower portion of the uterus, the bladder or rectum may be affected, and dysuria or a frequent desire to void urine, diarrhœa and pain on going to stool, be the consequence.

The constitution is often considerably affected—the pulse is quickened, the skin hot—there is much thirst, with vomiting, &c. (Burns.[1])

If the disease be very limited, the child may escape injury, and gestation be completed; but if more extended, the fœtus will probably perish in utero, or be prematurely expelled. (Joerg,[2] Siebold.[3])

Unless the disease be completely cured, and the tissue of the womb restored to its healthy condition, the consequences during parturition may be very serious. Dr. Gason, of Enniskerry, informed me that he has met with three cases of inflammation attacking some part of the womb during pregnancy; and that in these three cases, rupture took place during labour in the exact spot previously diseased.[4]

As showing the importance of these local inflammations during pregnancy, I may quote from Dr. Ed. Murphy's valuable paper on rupture of the uterus, one of his conclusions: "That in most instances where it occurs, it may be traced to morbid lesions, either previously existing, or produced by inflammation," &c.[5]

Pathology and Terminations.—The pathological changes consequent upon inflammation of this organ are best shown by pointing out the different terminations.

1. It may terminate in resolution, and the woman go the full time, and be safely delivered.

2. It may terminate in the effusion of lymph, firmly uniting the placenta to the uterus, and after delivery requiring its manual separation from that organ. The coincidence of the inflamed spot, and the implantation of the placenta, may be always ascertained by the stethescope, unless they be situated posteriorly. The same means

[1] Midwifery, p. 275.
[2] Krankheiten des Weibes, p. 473.
[3] Frauenzimmerkrankheiten, vol. ii. p. 356.
[4] See also Dr. Spark's case, Med. Gazette, vol. iii. p. 218.
Mr. Else's case, Med. Gazette, vol. ii. p. 400; and
Dr. Murphy's Paper, Dublin Journal, vol. vii. pp. 210, 215, 218, 219, 222.
[5] Ibid, p. 228.

may enable us to ascertain that they do not correspond, and this may relieve our minds of all fear of a retained placenta after delivery. (Renton.[1])

3. It may terminate in a *softening* of the tissue at the part affected, without any morbid change. (Murphy.[2] Kennedy.[3])

4. An *abscess* may be formed in the uterine tissue, (Siebold,[4] Busch[5]) which may open into the uterine cavity, or perforate the bladder or rectum, and so be evacuated by their natural outlets. It may also be effused into the abdominal cavity, and either be absorbed, or, sinking down into the pelvis, form a soft tumour between the uterus and rectum. After the escape of the matter, the abscess may heal, or it may remain an open ulcer. (Siebold.[4])

5. *Gangrene.*—This is not a very frequent termination, though it may occur, (Siebold, Busch,) and of course it is a most fatal one. It

[1] Edinburgh Medical and Surgical Journal, No. 139, p. 390, et seq.

The following case illustrates one cause and some consequences of inflammation of the uterus: "Mrs. M., about 30 years of age, was confined on the 6th of November, 1837, of her seventh child, after a very easy labour. In the early months of her pregnancy, she received, when in bed, a severe kick on the pubic region from one of her children, which occasioned great local pain. Within twenty-four hours, uterine action supervened, and considerable hemorrhage *per vaginam* took place on the following day. She was bled at the arm by Mr. Monteath, and underwent very active treatment, which was found necessary for allaying the inflammatory symptoms which arose, and for preventing the miscarriage with which she was threatened. She was long confined to bed, and was never free from a burning hot pain in the uterine region during the whole course of pregnancy." The child was born three hours before Mr. Renton saw her, but the placenta was retained. "Externally the uterus felt very irregularly contracted, bulky, and flaccid, extending from the pubis to the *scorbiculus cordis*." On examining internally it was discovered that "about one fourth of its (the placenta's) lower portion was detached, and the remaining part adhered, not closely and intimately, but by means of detached bands from below the middle, along the anterior wall of the uterus, which was puckered transversely and very irregularly, forming a striking contrast to the posterior side, which was uniformly smooth and free from contraction, firm, and greatly thickened." "The uniting bands felt like dense cellular membrane, and of the consistency of those adhesions by which the *pleura pulmonalis* is connected to the *pleura costalis* after inflammatory attacks."—*Mr. Renton's Paper on "Adhesion of the Placenta to the Uterine Surface," in the Edin. Journal, April,* 1839, p. 397.

See also Denman, Merriman, Ramsbotham, &c.

[2] Dublin Journal of Med. Science, vol. vii. p. 218, 219, 222.

[3] At a meeting of the Pathological Society of Dublin, Jan. 26, 1839, "Dr. E. Kennedy presented a specimen of 'softening of the uterus,' taken from the body of a female who died on the day of her admission into the Lying-in-Hospital, and without having presented any remarkable symptom, except pain at the upper and inner part of the thigh, where a slight redness was observable. The cæsarian section was performed, but the child was found dead, though perfectly formed. On dividing the parietes of the abdomen, the uterus appeared a deep purple, or almost black colour; its texture was remarkably soft, and its mucous surface covered with grumous blood."—*Dublin Journal of Medical Science,* May, 1839, p. 290.

[4] Frauenzimmerkrankheiten, vol. ii. p. 359.

[5] Handbuch der Entbindungskunst, p. 276.

has been described by German writers under the title of Putrescenz, (Ricker[1]) or Putrescirung of the Uterus. (Boer.[2])

Diagnosis.—When inflammation attacks the impregnated uterus, we have the advantage (at least for the greater part of gestation) of being able to examine the affected parts manually, which we cannot do when the uterus remains of the ordinary size, and is concealed in the pelvis. This will add to the facility of diagnosis, and with other signs may enable us to detect it.

1. From *Rheumatism.* Although in both there is pain and tenderness on pressure, yet in rheumatism the pain is more in paroxysms, and the tenderness less circumscribed, than in inflammation. The constitution, too, suffers more when the uterus is inflamed. The cause will also sometimes clear up the diagnosis.

2. From *Peritonitis.* Should the peritoneal covering of the uterus alone be inflamed, no doubt at first it would be difficult, if not impossible, to distinguish it from inflammation of the deeper tissues; but the peritonitis would soon spread over the abdominal viscera, instead of continuing in one limited spot; and, besides, the tenderness on pressure is more superficial, and more acute, in inflammation of the serous membrane, than of the muscular tissue.

In general peritonitis the tenderness is universal, whilst in the disease we are contemplating the tenderness is quite local and limited.

3. It may be distinguished from inflammation of the other abdominal organs by its local signs, and by the absence of their peculiar symptoms.

Prognosis.—It will be necessary to give a very guarded prognosis, as some of the terminations and consequences of even circumscribed inflammation may be very serious. If, however, the placental souffle should be heard at a distance from the affected part, we shall be relieved of part of our fears; the normal connection between the uterus and placenta will not be altered.

Treatment.—The disease being most generally limited in extent, it will probably be sufficient if we apply leeches, without having recourse to venesection, though this must not be omitted if necessary.

Leeches, then, in sufficient quantity, are to be applied to the affected part, and repeated if the tenderness and pain continue.

At the same time, calomel and opium, in moderate doses, should be given; and it may be requisite sometimes to touch the gums.

Hip baths have been found useful, but our employment of them will depend a good deal upon the period of pregnancy, and the threatening of labour or not.

Anodyne clysters may be given for the relief of the pain, and for procuring rest. When the acute stage has passed, much benefit will be derived from blisters, either repeated or kept open.

Stimulating and anodyne liniments have also been recommended.

[1] Siebold's Journal für der Geburtshülfe, &c. vol. xi. p. 62.
[2] Natürliche Geburtshülfe, &c. vol. i. p. 202.

If we suspect the formation of matter, we may find it necessary to give quinine, and to support the patient's strength by nutritious diet. If the purulent deposit be in the neck of the womb, we are advised to evacuate it by the aid of Savigny's Fistula Knife, or Osiander's Hysterotome.[1] If the matter escape by any other outlet, we must treat the case according to circumstances.

[1] Siebold's Frauenzimmerkrankheiten, vol. ii. p. 364.

SECTION II.

DISORDERS FROM SYMPATHETIC IRRITATION.

We shall commence the consideration of this class of diseases with those of the chylopoietic viscera, as amongst these the disturbance occasioned by conception is first felt; and then proceed to those of the circulating, respiratory, and nervous systems; concluding with the sympathetic irritations of the breasts.

DISORDERS OF THE CHYLOPOIETIC VISCERA.

CHAPTER I.

TOOTH-ACHE. *Odontalgie, Mal des Dents,* Fr. *Zahnschmerzen,* G.

Pain along the jaw, or in individual teeth, is of frequent occurrence with pregnant women.[1] It is more common in the earlier months, and with some it is the first indication of conception.[2] I have known several cases of this kind. (Capuron,[3] Gardien,[4] Imbert.[5]) It may either be continued, with but few and short intervals,

[1] Denman's Introduction, p. 161. Davis's Obstetric Medicine, vol. ii. p. 900. Blundell's Obstetricy, p. 201.

[2] "Generally speaking, this is a complaint of the earlier months, but patients have attacks of it throughout the whole period of pregnancy. Sometimes it never occurs till within two or three days of the commencement of labour. This is often a purely sympathetic affection; it is excited through the influence of the uterine on the nervous system. There is not a more fertile source of tooth-ache than torpid bowels."—*Campbell's Midwifery*, p. 518.

[3] "Certain women suffer from tooth-ache as soon as they have conceived, and even recognise their condition by this symptom. The pain varies in degree, and at different times; sometimes dull and aching, it may disappear at intervals; at other times acute and piercing, it may continue night and day. Then the sleep is lost, the appetite diminishes, the digestion is impaired, the patient becomes feverish, and sometimes abortion occurs."—*Capuron, Mal. des Femmes*, p. 357.

[4] Traité des Accouch. vol. ii. p. 66.

[5] Traité Theorique et Pratique des Mal. des Femmes, 1839, p. 398.

or (more generally) it occurs in paroxysms. Its effects upon the comfort and well-being of the patient are often very distressing —she loses her sleep, the appetite is lessened, digestion is impaired, and if not relieved, abortion may result. (Campbell, Capuron.)

It appears to be the effect of the uterine irritation upon the nervous system, and localised in this particular part. (Capuron, Campbell, Gardien.)

Causes.—1. In many cases it appears to be a simple neuralgia; and this is the case, I believe, in all those instances where it recurs with each pregnancy.

2. The gum may be attacked by inflammation. (Capuron.[1])

3. It may result from a general catarrhal affection. (Gardien.[2])

4. It may be caused by a carious tooth.

The *diagnosis* is of some importance in the choice of remedies; for instance, the treatment for the neuralgia differs from that for caries. The point to be settled is, whether the attack be neuralgic, inflammatory, or arising from organic disease of the tooth; and to satisfy ourselves, a very careful examination of the mouth must be made, and the state of the mucous membrane of the mouth and the general health be investigated. The probability of pregnancy, and the occurrence of tooth-ache in other pregnancies, will materially aid us in determining the character of the present attack.

Treatment.—Our first object, then, is to determine the character of the complaint. If we decide that it is neuralgic, we may try any of the essential oils, as cloves, peppermint, cinnamon, &c. A little alcohol, held in the mouth at the affected side, will sometimes afford relief. Fomentations are equally useful, especially when the whole jaw is painful. The effects of opium vary a good deal—it often relieves the pain, or lessens it, but sometimes fails. Creosote is often a valuable remedy.

Gardien speaks highly of the extract of the seeds of stramonium. Dr. Blundell says, "The volatile tincture of valerian bark, and carbonate of iron, are the principal remedies here."[3]

[1] Mal. des Femmes, p. 360.

[2] "Tooth-ache may depend upon different causes; it may be the result of plethora, or the consequence of a catarrhal affection. The state of the stomach, or an affection of some distant part, may also give rise to it. Sometimes it arises from caries, at others it is merely a dental neuralgia."—*Gardien, Traité des Accouch.* vol. ii. p. 66.

[3] "I was once called to a Greek lady, a Smyrniote, at the other end of the town, suffering violently from this disease, night by night, so that she could get no rest. All the ordinary remedies had been tried, in ordinary doses, but in vain. I gave her the volatile tincture of valerian, and bark, as largely as the stomach could bear, and with the effect of arresting the disease, so that throughout the remainder of her gestation she continued almost entirely free." —*Blundell, Princ. and Pract. of Obstetricy*, p. 201.

"Si elle est continué, je donne quatre, cinq, six, ou même dix pilules de meglin." . . . "Ces pilules, quand elles n'arretent pas la douleur, la rendent intermittente. Aussitot qu'elle prenne cette forme, j'administre le quina, et je coupe l'accès. Le remede doit etre donné à doses assez fortes que la maladie dure depuis quelques temps. Il y a quelques mois que j'eus

Counter-irritation externally, by a small blister to the temple or behind the ears, is occasionally of use (Capuron;) though as Gardien[1] remarks, it not unfrequently fails in cases of neuralgia. This list of remedies might easily be lengthened, but I prefer enumerating the principal ones, and leaving it to each person's experience to modify the general principle according to the individual case. After all our endeavours, we shall find ourselves in many instances unsuccessful; but then, on the one hand, it often disappears spontaneously. "We have seen," says M. Capuron, "tooth-ache, amenable to no remedies, spontaneously disappear towards the third or fourth month of pregnancy."[2]

If the gum be inflamed, it will be advisable to scarify it, or to apply leeches internally or externally. When the patient is hot, restless, and feverish, moderate general bleeding has been found beneficial. (Mauriceau.) The loss of blood should be followed by hot fomentations to the face, and the holding of warm water in the mouth. A purgative, with some mild medicine, according to the state of the stomach and bowels, should be exhibited.

When the tooth-ache is a consequence of a more general catarrhal affection, stimulating applications, or sialagogues, as they are termed, are useful (Gardien.) A small portion of the radix pyrethri, or of tobacco, or a stimulating lotion, may be used, and often with complete success. Blisters have also been recommended. If the catarrhal affection be acute or extensive, it may be necessary to commence by taking away some blood; but, generally speaking, this is unnecessary.

Many of the remedies already enumerated may be tried with carious teeth—such as the essential oils, tobacco, opium, creosote; and to them may be added nitric acid, (Ryan[3]) and the application of a red hot knitting-needle to the hollow in the tooth. But if all these remedies fail, as fail they often will, are we then to extract the tooth? Some authorities decide one way, some the other. Dr. Burns says, "I have known the extraction followed in a few minutes by abortion." Dr. Blundell would not extract, because he considers the attack neuralgic.[4] Dr. Campbell[5] is in favour of

à traiter une neuralgie semblable, qui ne peut être coupé que par une potion faite avec un gros d'extrait de quina et neuf grains de sulfate de quinine. Si l'etat de l'estomac ne permet pas l'administration de ce remede dans une potion, on donne un lavement fait avec une once de poudre de quina et autant de racines de valeraine. Ces remedes doivent être pris environ une heure avant l'accès."—*Imbert, Mal. des Femmes*, p. 361.

[1] Traité des Accouch. vol. ii. p. 66.

[2] Mal. des Femmes, p. 361.

[3] Essay on Tooth-ache, London Med. and Surg. Journal, vol. vii.

[4] Obstetricy, p. 201.

[5] "When the tooth is carious, however, no permanent advantage can be derived from any remedy but nitric acid and extraction. In a habit predisposed to abortion, it is said that the removal of a tooth is apt to occasion this accident; but I have never seen premature uterine action induced by it; while, as is well known, abortion has been excited by violent and long continued odontalgia."—*Campbell's Midwifery*, p. 519.

extraction, seeing more probability of abortion in continued pain. M. Capuron[1] argues with him, and so does M. Gardien—adding, however, that if after extracting two or three teeth, the pain be not relieved, we had better stop.[2] It appears to me that extraction may be advisable, provided other medicines have failed, that the tooth is evidently diseased, and that there is no predisposition to abortion.

CHAPTER II.

SALIVATION OR PTYALISM. *Ptyalisme*, Fr. *Speichelfluss*, G.

It is difficult to explain the sympathy between the uterus and salivary apparatus, though there is abundant evidence of its existence. Salivation, though not very frequent, is yet sufficiently so to have been set down among the signs of pregnancy. It is mentioned by Hippocrates, and has been noticed by many writers since his time. (Van Sweiten,[3] Rœderer,[4] Capuron,[5] Gardien,[6] Imbert,[7] Burns,[8] Blundell,[9] Campbell,[10] Montgomery,[11] Dewees.[12])

[1] Mal. des Femmes, p. 360.
[2] Traité des Accouch. vol. ii. p. 69.
[3] Commentaries, vol. xiii. p. 271.
[4] Elementa, p. 45.
[5] Mal. des Femmes, p. 316.
[6] Mal. des Femmes, vol. ii. p. 32.
[7] Mal. des Femmes, vol. i. p. 396.
[8] Principles of Midwifery, p. 267.
[9] "I saw a case of this sort, which strongly resembled mercurial ptyalism, but the fetor was wanting, and the gums were not ulcerated: there was merely the high action of the salivary apparatus."—*Blundell, Prin. and Prac. of Obstetricy*, p. 202.
[10] Midwifery, p. 519.
[11] Signs of Pregnancy, p. 55.
[12] Midwifery, p. 115, from which the following case is quoted:—

"We were called upon to prescribe for Mrs. J., who was advanced to the fifth month of her pregnancy. At the second month she was attacked by a profuse salivation; she discharged daily from one to three quarts of saliva, and was at the same time harassed by incessant nausea and frequent vomitings: so irritable was the stomach, that it rejected, almost instantly, any thing that was put into it. She now became extremely debilitated—so much so as to be unable to keep out of bed; and when she did attempt to sit up, she would almost instantly faint, if not instantly replaced. From a belief that the affection might be local, astringent gargles were freely employed, but with marked disadvantage. A large blister was next applied to the back of the neck, with decided but transient benefit—that is, the salivary discharge was less, the nausea diminished, and the vomiting less frequent; but this favourable impression was but of three or four days' duration; for after this time, all the unpleasant symptoms returned with their former severity. An emetic of ipecacuanha was now exhibited, followed by a cathartic of rhubarb and magnesia, without the smallest benefit;—soda water,

It generally occurs at a very early period of gestation, and may cease or abate about the third or fourth month. (Dewees.) It sometimes, however, continues throughout the entire period, as in one case under my care. It almost always ceases immediately after delivery, though cases are on record where it continued a month or two afterwards. (Imbert.[1])

It is possible that it may be somewhat dependent upon the constitution of the woman, though this is not clearly made out. Capuron says that it only occurs in those of nervous temperaments.

This is not the place to estimate its value as an evidence of pregnancy; I must refer the reader to the different authorities on the subject.

Cause.—It appears to be an affection of the salivary glands (which are sometimes swollen and tender) principally, in which the mucous membrane of the mouth participates to a certain extent. (Campbell.) In a case under my care, the left parotid only was affected. The gums are neither spongy nor ulcerated. The discharge is generally of the ordinary quality of the saliva, without fetor, but sometimes the taste is unpleasant. (Dewees.[2]) The quantity varies from somewhat above the ordinary amount, to several quarts; and from the necessity of frequently emptying the mouth, it proves very annoying. I subjoin a case which illustrates this point very well.[3]

lime-water and milk, milk itself, &c. were in turn unavailingly employed. We now put our patient upon a strictly animal diet, and ordered ten drops of laudanum morning and evening, and fifteen at bed-time: this plan succeeded most perfectly in the course of a few days; nausea and vomiting ceased, and the discharge was reduced to less than a pint *per diem*; and perhaps the force of habit had no inconsiderable agency in the production of this quantity. The bowels, during this plan, were kept open by the extract of butter-nut and rhubarb, in the form of pills. This lady never had any return of this complaint in her subsequent pregnancies."

[1] Mal. des Femmes, vol. i. p. 396.

[2] "It almost always has an unpleasant taste, though not attended with an offensive smell; it keeps the stomach in a state of constant irritation, and not unfrequently provokes puking, especially if the saliva be tenacious, and requires an effort to discharge it. At night it is often very troublesome, interrupting sleep by the frequency of the necessity of emptying the mouth."—*Compendium of Midwifery*, p. 115.

[3] "Mrs. Davis, æt. 37, has generally enjoyed tolerably good health. She is the mother of three children, and with each pregnancy sick head-ache and salivation have troubled her. She states that with her first child, after being pregnant about one month, she became affected with head-ache, and a large quantity of clear fluid, like saliva, was continually running into her mouth, so that sometimes two or three quarts were spat out during the day. At the expiration of the fourth month, that is to say, after she had quickened, the salivation left her entirely. During the second pregnancy, precisely the same series of symptoms presented themselves, the secretion stopping immediately after quickening. The bowels were generally costive, and great thirst was complained of. No medicines were taken, for sickness prevented her retaining most things on her stomach. During this last gestation, her old complaint had troubled her more than ever; it first appeared about a month after conception. Some days she spat out as much as *four quarts;*

When the discharge is moderate, the patient suffers merely inconvenience; but when excessive and long continued, the stomach is weakened and irritated, and sometimes evacuates its contents. The patient complains of weakness, and acidity of stomach. Constipation is very frequently an accompaniment.

The only error in *diagnosis* into which we could fall, would be that of mistaking the salivation caused by pregnancy for that caused by mercury. The distinction is sufficiently clear in the disease we have been describing; the gums are neither sore, spongy, nor ulcerated, nor is there any fetor from the mouth. The patient being pregnant will also serve to clear up the diagnosis. (Montgomery.[1])

Treatment.—By several writers, especially the French, we are cautioned against employing any remedies for the purpose of restraining or suppressing the discharge; and Baudelocque relates a case of a lady in whom the suppression was followed by apoplexy.[2] Murat[3] and Capuron[4] adopt M. Baudelocque's opinion, and merely recommend attention to the bowels. The most recent French author has adopted a somewhat different opinion. "The flow of saliva," says M. Imbert, "if not in excess, may be left to nature, but not so if it derange digestion, and weaken the patient."[5]

"It is scarcely necessary in any instance to interfere; but when a practitioner is importuned, from four to six leeches should be

never so little as *two quarts*. The quantity averages, indeed, somewhere about *three quarts* daily. After this quickening, a diminution took place; no complete cessation, however, was observed, and even during her labour a pocket-handkerchief was constantly used to absorb the fluid. Immediately after the child was born, the salivation ceased; no vestige of it remains, and she is now quite well in every respect." "The salivation was not produced by any therapeutical agent. The gums were not spongy, neither was the breath offensive."—*Case by Mr. Gorham (London) in Medical Gazette*, June 30, 1838.

[1] Signs of Pregnancy, p. 55.

[2] "Baudelocque disait dans ses leçons, avoir connu une jeune dame qui eut une salivation abondante à sa premiere grossesse, sans qu'elle perdit rien de son enbonpoint. M. M. Bouvart et Baudelocque furent long temps pressés par la famille pour l'arreter: ils se refuserent constamment. Le ptyalisme ne cessa qu'à l'epoque de l'accouchement. A la seconde grossesse, la salivation se manifesta de nouveau. Bouvart etait mort, et on appela un autre medicin et un autre accoucheur qui arreterent la salivation. Le lendemain cette dame fut frappée d'apoplexie."—*Imbert, Mal. des Femmes*, vol. i. p. 397.

[3] Dict. de Med. vol. xix. p. 450.

[4] "Ce seroit une imprudence que de conseiller les astringens pour moderer cette exces de salivation, chez une femme enceinte. Il suffit de tenir le ventre libre par des boissons delayantes, par des lavemens, ou par quelques sels cathartiques."—*Capuron, Mal. des Femmes*, p. 362.

[5] Mal. des Femmes, vol. i. p. 397.

"Ne pourrait-on pas y joindre les sinapismes, les vesicatoires, la saignée et même les sangsues à l'angle des mâchoires, et appliquer avec precaution la glace, ou au moins l'acetate de plomb ou l'oxycrat, sur les glandes affectées, sans redouter l'apoplexie dont a parlé Baudelocque?"—*Imbert, Mal. des Femmes*, vol. i. p. 398.

applied at different points, from ear to ear; a dose of some mild laxative medicine, such as the pulv. rhæi, should be administered every alternate day; while stimuli, whether condiments, food or cordials, are to be carefully avoided. As a refrigerant and astringent, ten grains of the Nitras Potasæ in two ounces of water, may be ordered once in four hours." (Campbell.[1]) Of the safety of interfering to this extent, there can be no question, according to the best evidence we possess. Prof. Burns speaks very highly of counter-irritation, which I have found very useful.[2] A blister may be applied to the back of the neck, or behind one or both ears.

Gargles of camomile or spearmint infusion are advised by Gardien.[3]

"Dr. Fahnestock, of Pennsylvania, recommends an infusion of the inner bark of the rhus glabrum, or sumach, as the best remedy." —(*London Med. and Surg. Journal*, 1830, vol. iv.) Dr. Geddings, of Charleston, has found the following remedy generally efficacious:

"℞ Mucilag: Acciæ ℥viii.
Ol. Terebinth: ʒii. M.
Usurpetur pro gargarismate, frequenter in die."[4]

Should the discharge prove obstinate, we may try any of the usual remedies against mercurial salivation (Imbert;) but in spite of all our efforts, it will often persist until it either abates or ceases spontaneously at a later period of gestation, or at its termination.

CHAPTER III.

FASTIDIOUS TASTE AND CAPRICIOUS APPETITE. *Anorexia. Bulimia. Pica. Malacia. Des Appetits bizarres ou depravés*, Fr.

That the functions of an organ so sensitive as the stomach, and so closely connected by sympathy with the uterus, should be variously disturbed, is only what might be expected. In the earlier months, when the sympathetic irritation is most marked, the appetite diminishes, or is altogether lost, and the patient becomes weak and emaciated; but after the third or fourth month, when the stomach is less disturbed, the appetite generally returns, and in some cases becomes voracious.

But a more remarkable peculiarity, and one less explicable, is the depravation of appetite we sometimes meet with, when the patient either utterly repudiates articles of diet of which she was previously

[1] Midwifery, p. 519.
[2] Midwifery, p. 267.
[3] Traité d' Accouchemens, vol. ii. p. 32.
[4] Ryan's Manual of Midwifery, p. 428.

fond,[1] or acquires tastes repugnant to her previous habits, or even to common sense. The older writers abound in curious stories of these *longings*, as they are termed, of pregnant women; nor are they unknown in modern times. Roderick à Castro relates a case of a woman who took a fancy to a bite of a baker's shoulder, nor could she be satisfied until the baker's consent was purchased.[2] Langiers mentions a woman whose husband was the object of her depraved appetite, and to gratify herself, she killed him, and having made a meal of part, she salted the rest. (Capuron.[3]) Others have devoured chalk,[4] broken stones, (Sennert) pepper, ginger,[5] brown paper.[6]

[1] "For example, some persons, while pregnant, consider raw oysters a great relish, though previously to gestation they could not bear them; others during gravidity cannot take cheese, though fond of it previously; some pregnant females express a vehement desire for fruit out of season, which was never longed for when it might have been procured."—*Campbell's Midwifery*, p. 522. *Blundell's Obstetricy*, p. 166.

"Strange appetites and fancies are well known as frequent attendants on pregnancy in many persons, some of whom will long to eat unusual and even revolting articles, while others, immediately after conception, are seized with an unconquerable aversion to species of food which were previously particularly agreeable to them. I have seen several well-marked instances of this, and in particular one, in the case of a lady who assured me that she always knew when she was with child by feeling a violent antipathy to wine and tea, which at other times she took with pleasure."—*Montgomery, Signs of Pregnancy*, p. 151.

[2] Gaidien, Traité des Accouchemens, vol. ii. p. 38.

[3] Mal. des Femmes, p. 376.

[4] "We formerly attended a lady with several children, who was in the constant habit of eating chalk during her whole time of pregnancy: she used it in such excessive quantities as to render the bowels almost useless. We have known her many times not to have an evacuation for ten and twelve days together, and then only procured by enemata; and the stools were literally nothing but chalk. Her calculation, we well remember, was *three half pecks* for each pregnancy. She became as white nearly as the substance itself, and it eventually destroyed her, by deranging her stomach so much that it would retain nothing whatever upon it."—*Dewees, Comp. of Midwifery*, p. 113.

[5] "A young woman, married to a ginger-bread maker, took a fancy during her first pregnancy, to chew ginger. The quantity of this spice which she thus consumed was estimated at several pounds. She went her full time and had a favourable labour, but the child was small and meagre; its skin was discoloured and rough, much resembling the furfuraceous desquamation that takes place after scarlatina. The child continued in an ill state of health for several weeks, and then died. She had several children afterwards, all healthy and vigorous. The inclination for ginger only prevailed with her first infant." Dr. Merriman relates the case of another patient, who took a fancy for gin and water, which she drank in large quantities. "The child was small and lanky, its voice was weak, its face wrinkled and ghastly, and its belly collapsed: its skin was mahogany-coloured, and hung in folds all over its body." It died in convulsions.—*Merriman's Synopsis*, p. 321.

[6] The writer lately attended, with Dr. Evanson and Dr. Alcock, the post mortem examination of a child which had lived only nine weeks. At birth an unusual fulness was observed about the perineum and anus, which increased rapidly until these parts became greatly protruded, and a tumour was formed, of the size of a very large orange. Convulsions came on, and

Some of these cases (of which many more might be cited[1]) are doubtless fabulous, but the others abundantly establish the fact of these extraordinary tastes during gestation, and that they are carried to such excess as to constitute monomania. The indulgence with which all persons regard pregnant females, together with the belief that an ungratified wish would injure the child, or at least impress an image of the thing longed for upon some part of its body, has led to the unlimited gratification of these desires.[2]

It is worthy of notice that these disgusts are not excited after experience of the offensive matters, but are formed without tasting; and are in fact owing to a vitiated taste in the stomach, and not in consequence of any unpleasant effects produced by them.[3]

the child died after much suffering. The tumour, on examination, was a perfect specimen of fungus hæmatodes, and the earliest instance of the disease known to the writer. In this case the mother had indulged, during all the time of her pregnancy, in continually eating brown paper. She had done the same in her former pregnancy, which was her first, and the child was still-born under a foot presentation. I cannot of course undertake to assert that there was certainly a connection between the effect observed in the child and the depraved appetite of the mother; but the fact appeared to me sufficiently remarkable to be noticed."—*Montgomery, Signs of Pregnancy*, pp. 151, 152.

[1] See, amongst other writers, Schurigius's Chirologia, p. 38.

[2] "In the early part of my own life, nothing was more common than to hear of innumerable examples of the dreadful events which were caused by disappointed longing; or to see instances of the great confusion and distress in families, from a persuasion of its importance. But at the present time, and in this country, the term longing is seldom mentioned, except among the lowest class of people; though the cause, if any had existed, must have produced its effects at all times, and in all situations."—*Denman's Introd. to Midwifery*, p. 154.

"The term *longings* is in familiar use to designate the above inordinate desires, which were not supposed to originate entirely with the mother, but to be partly also excited by the fœtus; and accordingly it is still sometimes considered imperative to gratify them, lest the colour or figure of the thing wished for should appear on the infant at birth. The works of the older writers abound in the most incredible stories on this head; but accurate investigation, and higher enlightenment, have triumphed over these superstitions. It would require a strong dose of credulity to believe the story of Tulpius, who knew a woman that devoured during her pregnancy 1400 salted herrings, and whose infant was equally fond of them, without having herring marks upon its body."—*Campbell's Midwifery*, p. 522.

[3] "Le desire ou l'aversion qu'un aliment ou toute autre substance inusitée comme aliment, inspire aux femmes grosses, ne trouve pas, comme dans l'ordre naturel, sa source dans la maniere agréable ou desagréable, dont l'organe du gout est affecté, puisque le plus souvent elles n'ont pas gouté du mets qu'elles rebutent ou appetent. Un aliment pouvant etre rejeté ou recherché par elles, quoiqu'il n'ait encore jamais agi immediatement sur l'organe du gout, il est evident qui l'on ne peut pas toujours faire dependre l'aversion que l'estomac temoigne pour certaines mets d'un defaut d'analogie entre cette substance et sa sensibilité naturelle." "L'estomac est la siege du *pica*. La grossesse, la chlorose, developpent dans cette organe un mode particulier d'excitabilité, qui change l'ordre de ces fonctions, et particulierement le sentiment du gout, qui est une espèce de tact qui est propre a cet organe, et au moyen duquel il juge des qualités des aliments."—*Gardien, Traité d'Accouch.* vol. ii. p. 40.

These caprices seem peculiar to the early months of pregnancy; they subside gradually, and rarely continue after the fourth month. (Campbell.[1] Gardien.[2])

Causes.—The earliest opinion (*Roderick à Castro, Mauriceau, &c.*) attributes these disorders to a plethora occasioned by the suppression of the menses; others to the sympathy between the uterus and the stomach (Capuron); or to the sympathy of the brain with the uterus, transmitted to the stomach;[3] and though this expresses the fact accurately enough, yet it is far from satisfactory as an explanation. We may say, in the words of M. Capuron, "Mais cet sympathie qu'est-elle au fond, qu'un mot qui cache la defaite des physiologistes, ou plutot leur ignorance sur la cause des phénoménes de l'organisme?"[4]

M. Imbert has divided the disorder into three species, according to the proximate cause, viz:—1. "Pica nerveuse." 2. "Pica gastro-intestinale." 3. "Pica plethorique." In some cases he thinks it is scarcely a disease, but an instinct of nature, directing the patient to matters which are required for the nourishment of the fœtus.[5] I have already quoted M. Gardien's opinion, that it is not from sympathy, but from the actual state of the stomach itself. This variance of opinion will at least show the difficulty of explaining the cause of such caprices; nor while I feel the insufficiency of all that has been offered, (except as varied expressions of the same fact,) have I any thing better to substitute. In the present state of our science, a confession of ignorance is often the first step to knowledge.

Symptoms.—The disorder itself, as already described, is the most prominent symptom; but the disgust at ordinary food, and the desire for extraordinary substances, is generally accompanied with other evidences of deranged stomach. The tongue is loaded, the mouth filled with viscid saliva, and there are frequent eructations of glairy fluid. The patient is languid and dejected.[6] As a proof

[1] Midwifery, p. 522.

[2] Traité d'Accouchemens, vol. ii. p. 41.

[3] "Antipathies, vitiated appetites and desires, or, as they are termed, longings, are also developed in pregnancy, produced by the brain's sympathising with a vitiated state of the stomach, depending upon irritation of the uterus."—*Dr. E. Kennedy's Evidences of Pregnancy*, p. 20.

[4] Mal. des Femmes, p. 377.

[5] "Cette observation," (the little mischief done by the indulgence of these caprices) "me porterait à croire que ces pretendus caprices, ces bizarreries, ne sont autre chose que les penchants par lesquels la nature nous pousse à introduire dans l'economie les materiaux necessaires à la formation de nouvel être."—*Imbert, Mal. des Femmes*, vol. i. p. 376.

[6] "These (caprices) commonly discover themselves by an air of pensiveness and dejection in the mother; are often very absurd, but entirely involuntary; and the woman generally continues anxious and uneasy, till she has obtained her wishes. Whilst women are under the influence of these desires, all reasoning is thrown away upon them: and therefore, when the wished for object can be procured, it will be proper to gratify them, as abortion has often been the consequence of a disappointment."—*Manning on Female Diseases*, p. 305.

that the secretions of the stomach are vitiated, M. Gardien mentions that inflammation, corrosion, and perforation of that organ, have been discovered after death.[1]

A very important question arises in these cases, as to the extent to which they may affect the child. Few professional men at the present day are disposed to believe the stories told of "mother's marks" of gooseberries, currants, grapes, &c.; but though our incredulity may be justified so far, we can scarcely suppose that a fœtus may be as well nourished upon chalk, or brown paper, as upon ordinary diet.[2] These conclusions are, I think, justified by the state of the children in several of the cases related. (Merriman, Montgomery, &c.)

Treatment.—The effects produced on the health of both mother and child are quite sufficient to show, that in yielding to these extreme fancies and caprices, we are incurring mischief instead of avoiding it, and it will consequently be our duty to oppose it firmly.[3] As to the distaste for certain articles of diet, this may be gratified by avoiding them, as no harm can result. (Blundell.) The remedies necessary must be regulated by the period of pregnancy, the temperament of the patient, and her habits.[4] Very little medicine is necessary; the bowels should be kept free, and a light, bitter infusion may be given. Venesection has been recommended in robust women, and baths. Opium and ether have also been found useful. Should the secretions of the stomach be acid, some antacid or absorbent medicines may be exhibited, though I think few will agree to take a passion for eating chalk, plaster, &c., as a natural indication for this line of treatment.[5]

[1] "Ou a vu dans quelques cas les sucs gastriques acquerir une telle acrimonie que les tuniques de l'estomac en etaient enflammées, corrodées, et meme perforées. L'autopsie cadaverique en presente plusieurs exemples qui ont causé la mort subitement."—*Gardien, Traité des Accouchemens*, vol. ii. p. 40.

[2] "Que doit-on penser des effets de ces envies sur la fœtus?" "Certes il ne faut pas croire que l'envie d'une cerise ou d'une groseille, aille produire l'image de ces fruits sur la partée de l'enfant, analogue à celle qui aura eté touchée par la mere, mais on conçoit tres bien, que cette envie poussée au degré où nous l'avons vue tout à l'heure, trouble la formation de l'embryon, et puisse y produire quelque monstruosité dans laquelle l'imagination des femmes aimera à retrouver les traces de l'idee qui les aura occupées pendant leur grossesse."—*Imbert, Mal. des Femmes*, vol. i. p. 377.

[3] "These cases tend to prove what no man, who has had opportunities of observation, has ever doubted, that the popular doctrine is false and indefensible, which teaches that pregnant women should be allowed to indulge all the capriciousness and wanton absurdities of their appetites; it being most certain, that however safe and uninjurious some of the articles of diet longed for may be, others cannot be taken without danger of hurting either mother or child."—*Merriman's Synopsis*, p. 321.

[4] "Dans le traitement de cette affection il faut avoir égard au temps de la grossesse, au temperament de la femme, à sa maniere de vivre, à ses gouts particuliers."—*Capuron, Mal. des Femmes*, p. 379.

[5] "Quelquefois la nature elle meme indique le traitement, par la qualité des substances sur lesquelles porte l'appetit: le desir de manger de la craie,

The diet should be bland and nutritious, biscuit being preferable to bread, and the patient should take plenty of exercise in the fresh air.

Should all our efforts fail, we need not be altogether discouraged —a little time may effect that which we are unable to do. Most of these fancies abate or disappear after the third or fourth month.

CHAPTER IV.

NAUSEA AND VOMITING. *Nausée. Vomissement.* Fr. *Uebelseyn und Erbrechen der Schwangern*, G.

In a former chapter,[1] irritability of the stomach has been mentioned as holding a prominent place among the organic sympathies excited by the pregnant uterus. This is shown by the nausea or vomiting which occur during gestation, and which, from the time at which the attack ordinarily occurs, has been termed the "morning sickness," and is considered popularly as a strong evidence of conception. With regard to the period of pregnancy and the time of the day at which it occurs, there is considerable uncertainty. Generally speaking, about the fourth or sixth week the patient finds her stomach uncomfortable; and on rising in the morning, this discomfort amounts to nausea or vomiting, and efforts are made to evacuate the stomach. Whether successful or not, this state lasts from ten minutes to an hour, and then ceases; and the patient descends to her breakfast, of which she partakes without diminution of appetite, and without subsequent distress. These attacks are renewed every morning, with more or less intensity, for a period of six weeks, or two months, and then they gradually subside, leaving behind them no ill effects.[2]

But with some patients, nausea or vomiting never occur; others are attacked a few days after conception;[3] and others not until the

du platre, suppose des acides que l'on cherche à dissiper par l'usage des absorbans."—*Gardien, Traité des Accouch.* vol. ii. p. 42.

[1] Chapter I. p. 11.

[2] "This vomiting continues generally until the third or fourth month of pregnancy, at which time the motions of the infant are felt, after which it begins to diminish, and the patient recovers her appetite."—*Mauriceau, Mal. des Femmes*, vol. i. p. 129.

See also Siebold's Frauenzimmerkrankheiten, vol. ii. p. 6.

[3] "There are others who discover it (conception) only by the occurrence of vomiting which follows it, and so quickly, that I have known it happen from the first day of conception, in consequence of the contraction of the uterus at the moment, and which is communicated to the stomach by a branch of the eighth pair of nerves, and causes vomiting."—*Dela Motte, Traité des Accouchemens*, p. 70. Van Swieten also relates a case of this kind.

"I had once a lady under my care, in whom there was reason to believe

seventh or eighth month of utero gestation.[1] Again, instead of vomiting following the assumption of the upright position, it does not come on in some cases until a meal has been taken. In two or three cases under my own observation, it did not happen until bed time, and then it continued during the night, whenever the patient was awake.[2] Or it may not be confined to the morning, but continued at intervals—after each meal, or independently—during the entire day. Instead of gradually ceasing about the third or fourth month, it sometimes persists during the whole period of pregnancy. (Manning.) With one exception (where it follows a meal) these variations are of little consequence—they do not occasion very much inconvenience, nor interfere with the successful progress and termination of the pregnancy. I may remark, however, that when the occurrence of vomiting is at irregular times, I have generally observed other irregularities (such as the period of quickening, &c.) during gestation. But the violence of the retching and the degree of gastric irritability are matters of great importance, as the consequences may be serious if they be carried beyond certain limits. Violent vomiting has occasionally brought on miscarriage, from the repeated shocks. (Gardien,[3] Burns,[4] Campbell, Im-

that it began the day after conception, and the date of her labour corresponded to such belief. More recently I attended a patient who was married on Monday, and began to be squeamish on Saturday: her delivery took place within nine months. Most frequently it occurs for the first time between two and three weeks after conception; in others not for as many months, and in some not at all; of this I have now seen several instances."—*Montgomery, Signs of Pregnancy.* p. 53.

[1] "Vomiting occurs sometimes about the seventh month in those women in whom the uterus is very perpendicular ("qui portent leur enfant fort haut,") owing to compression of the stomach by this viscus, and this does not usually cease until delivery."—*Gardien, Traité des Accouch.* vol. ii. p. 49.

"In other cases these complaints are present during the two latter months only, and occasionally; when severe dysmenorrhœa has preceded impregnation, there is little or no morning sickness at any period, and in such cases the appetite is improved by gestation. Though this gastric derangement be severe in one pregnancy, it may be absent entirely in the next."—*Campbell's Midwifery*, p. 529.

"We must, however, bear in mind the fact, that morning sickness and dyspeptic symptoms may continue into advanced pregnancy, and sometimes even occur at that period, although they may have been absent in the early months."—*Dr. Kennedy, Evidences of Pregnancy*, p. 10.

[2] Siebold's Frauenzimmerkrankheiten, vol. ii. p. 6.

[3] "If some women have vomiting a few days after conception, with the greater number it does not occur until the end of two or three weeks, or even later. Some women vomit early in the morning, and are well during the rest of the day; others, on the contrary, suffer from it after a meal only. The latter cases are the most distressing, because—the food being rejected as soon as taken—the patient may fall into a state of marasmus for want of nourishment. Vomiting occurring repeatedly during the day, with violent straining, is very dangerous, and may cause abortion. Nevertheless, we frequently see women delivered at the natural time, of full sized infants, who have been subject to frequent vomiting during the entire duration of gestation."—*Gardien, Traité des Accouch.* vol. ii. p. 44.

[4] "Although emetics be apt to cause abortion, yet this sympathetic

bert,[1] Siebold.[2]) When the irritability of the stomach causes the rejection of food immediately after it is taken, or prevents the reception of it, the constitution of the patient will suffer from a two-fold cause—the presence of constant irritation, and the absence of nutrition; and if this be continued, and resist all our remedies, the patient may sink from exhaustion before gestation is completed.[3] Several such cases are on record.[4]

vomiting seldom does so, unless it be long continued. In this case abortion does take place, and most fortunately, as otherwise the woman would die exhausted. I have never known, however, vomiting purely dependent on pregnancy, end fatally."—*Midwifery*, p. 252.

[1] Mal. des Femmes, p. 387.

[2] Frauenzimmerkrankheiten, vol. ii. p. 11.

[3] "The vomiting in pregnancy is not accompanied by any other symptom of ill health; on the contrary, the patient feels perhaps as well as ever in other respects, and may even take her meals with as much appetite and relish as at other times; but while doing so, or immediately after, she feels suddenly sick, and has hardly time to retire, when she rejects the whole contents of the stomach, and presently feels quite well again. In some instances, however, the woman is distressed by a perpetual nausea; and in a few rare cases vomiting has been so excessive as to endanger or even to destroy the life of the woman, (See Mem. Lond. Med. Soc. vol. ii. p. 125. Med. Chir. Trans. vol. iii. p. 139. Lond. Med. Gaz. vol. v. p. 287, 1839.) from inanition or by rupture of some internal organ."—*Montgomery, Signs of Pregnancy.*

[4] Dr. Marshall Hall gave us the particulars of a case occurring under his own notice, although not under his own care, where vomiting continued in spite of every remedy which a most experienced practitioner could suggest, and which terminated fatally in the seventh month. Here premature labour would probably have saved the patient."—*Ashwell on Parturition*, p. 194.

The particulars of a very interesting case are given by Dr. Davis, from Dr. Haighton's notes:—"Some time ago I was applied to by a lady in the city. In her first and second pregnancy, the sickness was so obstinate that nothing could relieve it but delivery. In one of her gestations she went her full time; in another, only to the seventh month; but on both occasions she was equally relieved by delivery. In her second pregnancy, the vomiting had not been extremely violent. When I saw her, it was her fourth pregnancy, and about the sixth month of gestation. The practitioner who attended her had treated her very properly, but without success. I ordered something, but it had no better effect. She was removed into the country, but she went no further than Islington, and she returned without receiving any benefit. She was then in her seventh month—her sickness grew worse, but it underwent some changes, for sometimes it would be very violent, and then it would intermit. The intermission, however, would last but a short time, and then it would end in a violent diarrhœa; and if means were used to stop the looseness, then the sickness immediately returned. In this way she went on until she was very much reduced. During a few days in the progress of this exhaustion, I observed that her strength declined much faster than before; I therefore expressed to her mother my wish to be permitted to invite a tendency to labour. No obstacle was thrown in my way. I put her into a hip bath, but this increased her symptoms, without producing the effect I hoped from it. It was now the middle of the seventh month, and I saw that she could not live till the ninth. I therefore proposed to bring on premature labour; but not liking to take the whole of the responsibility on myself, I desired the friends to send for some respectable person to meet me. The gentleman who came fell readily into my ideas, but did not see

I copy the following case from the Lancet:—"A lady, æt. 30, soon after marriage ceased to menstruate, and became affected with morning sickness, which symptoms were naturally enough attributed to pregnancy. The sickness, however, gradually became worse, and at last nothing of any kind could be retained on the stomach. Pregnancy was not detected, but the disorder attributed to some disease of the pylorus. The sickness, and extreme emaciation, were the only symptoms present. After death, no morbid appearances were observable in any part of the body. The uterus contained a fœtus about four months old. This patient was literally starved to death." "The treatment pursued consisted of the use of various salines, anti-emetics, counter-irritation, leeches, acetate of morphia sprinkled over a blistered surface, &c."[1] Similar cases are related by Dr. Davis,[2] M. Dance,[3] &c. &c.

that the danger was so pressing. He therefore thought it better to wait for a fortnight longer. Seeing that this was the only point with him, I urged my own opinion, with this argument, viz. which was most likely to estimate the danger correctly? *he*, who had taken a transient view of the case; or *I*, who had watched it day after day? He allowed the strength of the argument, but said he would turn it over in his mind, and meet me again in the evening. At this time, unluckily for the patient, she had retained about half a pound of nourishment, and the sickness had not increased. He thought it proper, therefore, again to defer the operation, although I explained that this was only one of those delusive intervals which terminated in diarrhœa. So indeed it proved; for the next day she was exceedingly ill. I now told him, if he had not made up his mind, that I had. I added, that if he chose to undertake the bringing on of premature labour, he might; but I thought the time was past, and so did he. In two days more the patient sunk. Now I do not think it right to say that this woman would have recovered if premature labour had been brought on in proper time: but it is my opinion that it would have given her a great chance."—*Davis's Obstetric Medicine*, vol. ii. p. 871.

[1] Dr. Johnson's case, in Lancet, March 3, 1838, p. 825.

[2] Obstetric Medicine, vol. ii. p. 871.

[3] Two cases, by M. Dance, Hotel Dieu, Paris, with post mortem examinations, are given in the Medico-Chirurgical Review, from the Repertoire:

"Case 1. Sophy Pepin, æt. 21, meagre, nervous, and irritable, entered the Hotel Dieu, April 15, 1826. Three months and more previously the catamenia had stopped, and soon afterwards she was affected with weight and pain in the epigastrium, and considerable derangement of the general health. During the preceding two months she was harassed with almost constant vomiting of every thing she took, liquid or solid, attended with rapid emaciation. Yet her tongue was clean and moist, without any redness at the sides. The physician who attended her in the city, never perceived any febrile movement in the system. The epigastrium was now devoid of tenderness on pressure, and only a pulsation rather more than natural could be felt—sleep interrupted—habitual constipation—vomiting both night and day indifferently, preceded by a disagreeable sensation of twisting in the epigastrium. The matters ejected were often of a greenish or limpid character, and small in quantity. The patient did not think herself pregnant, and there was no enlargement of the hypogastric region. Leeches—ice, externally and internally—and various other means, had been tried in vain to stop the vomiting. The anti-emetic draught of Riverius was tried on the 16th at the hospital, but ineffectually—opium plaster was applied to the pit of the stomach, with

It has been remarked, that when the progress of gestation is arrested by the death of the fœtus, the vomiting generally ceases spontaneously. (Burns.[1])

There are also cases recorded where the violence of the vomiting has ruptured the uterus, or some internal organ.[2]

The fluid ejected may be thin, watery, or glairy and colourless; or it may consist partly of bile or blood,[3] depending probably upon the violence and duration of the vomiting.

In the severer cases "it is either greenish or blackish, according to the extent and duration of the disease; and there is tenderness of the epigastrium, with great depression of strength." (Burns.]

In addition to the effects of continued vomiting already described, we shall find the pulse reduced in strength and quickened, the tongue often loaded, and the bowels constipated. (Davis. Dewees.)

as little success. Twenty other remedies, including leeches and blisters, were put in requisition, without having the slightest effect in checking the vomiting. By the end of May, emaciation had made great progress, and now the hypogastrium began to become prominent, and pregnancy was ascertained to exist. On the 2d of June, this afflicted creature ceased to suffer.

"*Dissection.*—No lesion could be detected in the stomach, except a slight reddish tint in the mucous membrane. The whole of the intestinal tube was sound. The uterus rose a few inches above the pubes, and its parietes were preternaturally soft and flabby, but without any other appreciable change of structure. The membranes of the fœtus were transparent throughout; but between these and the uterus there were false membranes, forming a layer some lines in thickness, exactly resembling those found between the pleuræ after inflammation. The same was found between the placenta and the uterus, but more of a purulent character."

Case 2d. "Anglãe Leroy, æt. 20 years, not married, became irregular in her menstruation in Nov. 1824, and soon afterwards was troubled with sickness, malaise, cephalalgia, and vomiting of bilious matters. She entered the Hotel Dieu, Dec. 30, 1824, and at this time she was suspected to be pregnant. The vomitings were very frequent, and there was some pain on pressure of the epigastrium, but no fever. The tongue was moist, and slightly red at the sides. She was cupped on the epigastrium, but without any benefit. Various means were employed to allay the vomiting, but they were attended with only temporary relief. In the beginning of February the sickness was as bad as ever. Her stomach would retain no kind of food, and she expired, exhausted, on the 13th of the same month."

"*Dissection.*—The emaciation was great, no appreciable lesion in the head or thorax—some red and softened spots near the cardiac orifice of the stomach. The uterus rose some inches above the pubes, and its parietes were exceedingly thin—scarcely a line and a half in thickness. They were also very soft, and gorged with blood. The membranes were transparent—the embryo appeared to be about three months old; and there was no other appearance of disease."—*Medico Chirurgical Review* for 1829, vol. 8, p. 149, *New Series.*

[1] Midwifery, p. 253.

[2] Duparcque. Lond. Med. Gaz. Jan. 19, 1829.

[3] "The fluid thrown up is generally glairy or phlegm; and the mouth fills with water previous to vomiting: but if the vomiting be severe or repeated, bilious fluid is ejected."—*Burns's Midwifery.* p. 252; *Dewees's Compendium of Midwifery*, p. 110; *Siebold's Frauenzimmerkrankheiten*, vol. ii. p. 7.

"The rejected matter varies in its composition. Independent of the ingesta, sometimes bloody mucus is brought up, at other times pure bile."—*Campbell*, p. 520.

Causes.—In the milder cases the vomiting is simply owing to the sympathy with the gravid state of the uterus,[1] the condition of the stomach is healthy in most cases. Temperament will doubtless have much influence on this class. A plethoric condition has been supposed to give rise to it. Carus says, "A second cause, often combined with the former, is overfulness of the portal system, in consequence of the increased vascular action of the genital system, which plethoric condition often gives rise to inflammatory affections."[2]

When the vomiting comes on, especially for the first time, towards the end of pregnancy, it is probably partly to this sympathy, and partly to mechanical pressure of the gravid uterus upon the stomach. (Siebold.[3]) In the more violent and long-continued cases of vomiting, it is impossible to doubt that the stomach becomes actually inflamed. (Siebold.[4] Carus.) It is a very interesting question, how far some of these worst forms may be dependent upon a peculiar and diseased condition of the uterus itself, or of its contents. I fear our facts are too few at present to enable us to come to any very definite conclusion; but there are some cases which would seem to justify the suspicion of a connection between the two. The cases related by M. Dance, already quoted, are of this kind. Dr. Burns observes, "Obstinate vomiting has also appeared to proceed from a morbid condition of the uterus, which after death has been found slightly inflamed; or even pus has been found between the surface of the uterus and membranes, although during life no pain was felt in the uterine region. The parietes are soft, the uterus flaccid, with an exudation of fibrine in some places between the uterus and decidua. The stomach is sound, and seldom has been pained."[5]

[1] Mauriceau, Traité des Accouch. vol. i. p. 129. Puzos, Traité des Accouch. p. 73. De la Motte, Traité des Accouch. p. 70. Siebold's Frauenzimmerkrankheiten, vol. ii. p. 8.

[2] Carus, Gynæcologie, vol. ii. p. 198.

"This affection is observed most frequently soon after conception, especially in women of great sensibility; some, however, do not experience it till about the fourth month, and others only towards the end of gestation. In the first case it is the effect of uterine irritation, communicated to the digestive system; in the second it would seem owing to a plethoric condition, produced by suppression of the menses, particularly in women of a sanguine temperament, in whom menstruation is excessive; in the third it is to be attributed to mechanical pressure, or the pushing up of the stomach by the uterus, which gradually rises to the epigastrium, and occupies the greater portion of the abdomen.—*Capuron, Mal. des Femmes*, p. 370.

"L'etiologie que je viens de proposer sur le vomissement qui survient dans les premiers temps de la grossesse, suppose deux choses: la premiere qu'il peut exister lesion dans un organe parceque les fonctions d'un autre sont troublées; la seconde, que cette affection symptomatique peut quelquefois augmenter la sensibilité et d'autres fois la diminuer."—*Gardien, Traité des Accouch.* vol. ii. p. 46.

[3] Frauenzimmerkrankheiten, vol. ii. p. 8.

[4] Ibid. vol. ii. p. 10. Gynæcologie, vol. ii. p. 198.

[5] Midwifery, p. 254.

Among the occasional exciting causes, we may place bad smells,[1] peculiar odours, and indigestible food, or a torpid state of the bowels.[2] We can scarcely, I think, attribute it to the secretions of the stomach.[3]

Diagnosis.—The first point to be ascertained in any case of repeated vomiting is, whether it arise from pregnancy or disease. Its occurrence only in the morning, with the absence of the menses, and an alteration in the areola and nipple, will afford good grounds of suspicion, though not of absolute proof. When the vomiting is very frequent and obstinate, without other evidence of disease of the stomach, but with such signs of conception as are developed according to the supposed period of pregnancy, we shall have good ground for treating the case as dependent upon gestation. As to its positive and relative value as a sign of pregnancy, I must refer the reader to works upon the subject; I have only to treat of it as a disease.

Treatment.—The choice of remedies will depend very much upon the constitution of the woman, upon the amount of the disorder, and upon the period of pregnancy. In slight cases, at an early period, no treatment will be necessary ;[4] and even when more severe, it may be wise often to try the effect of time, inasmuch as in the majority of cases it ceases after the third or fourth month.[5] It is probable that, when the stomach is disturbed by its contents, or the ingesta are of an indigestible character, a moderate degree of vomiting may be beneficial. (Denman.) Nausea is so much more distressing than vomiting, that in such cases we are advised to give a gentle emetic. (Denman.[6] Blundell.[7])

[1] "Dr. Lowder had a patient who was effectually relieved by removing from the factory of her husband—a coachmaker; for when she became pregnant, the smell of the paint continually excited the stomach."—*Blundell's Obstetricy*, p. 187.

[2] "These affections chiefly arise from the influence of the uterus, in a high state of irritation, on the stomach; and another very fertile source of nausea and vomiting in the gravid state is torpor of the bowels; to which we may certainly add, indulgence in liquids and vegetables."—*Campbell's Midwifery*, p. 520.

[3] "I do not regard these fluids (contained in the stomach) as corrupted, although many excellent writers do. I make a wide difference between superfluous and corrupted fluids. Corruption changes the nature of things; superfluity merely consists in their abundance."—*De la Motte, Traité des Accouchemens*, p. 72.

[4] "One need neither be surprised nor disturbed at the vomiting in the early months, provided it be moderate, and without much effort; but if it continue after the fourth month, it is to be remedied, if possible; inasmuch as the food being constantly rejected, the mother and child will be much weakened."—*Mauriceau, Mal. des Femmes*, vol. i. p. 130.

[5] "These disorders are common to favourable and unfavourable cases of pregnancy, with this difference, however, that in the favourable cases they disappear towards the third or fourth month: their disappearance is a certain sign of favourable gestation," (d'une bonne grossesse.)—*Puzos, Traité des Accouch.* p. 73.

[6] Denman's Midwifery, p. 153.

[7] Obstetricy, p. 177.

If at any period of pregnancy the vomiting be so excessive as to call for our interference, and the patient be of a plethoric habit, there can be no question of the propriety of venesection; but in most cases this can only be done at an early period of the vomiting, as by its continuance the patient is so much reduced as to prohibit this remedy.[1] Manning recommends this particularly at the menstrual periods.[2] Small and repeated bleedings are preferable to the abstraction of a large quantity at once. If venesection be objectionable, leeches may be applied to the epigastrium.

Gentle purgatives should be given, so as to keep up a constant action of the bowels, especially if there be evidence of irritating matters being retained in the intestines. (Mauriceau.[3] Davis.[4] Blundell.[5] Imbert.[6])

[1] "In general, bleeding is the most successful remedy. Some women even feel the necessity of it by the increase of vomiting."—*Puzos, Traité des Accouch.* p. 76.

Mauriceau relates a case of violent vomitings, accompanied by a kind of convulsive movement, in the second month of pregnancy. "The patient was of a sanguineous disposition. She had formerly aborted, and had had a false conception the year before. She was now bled at the arm, and she went on to her full time, and was safely delivered."—*Mal. des Femmes grosses*, vol. ii. p. 21.

In another case the vomiting occurred in the ninth month of pregnancy, and was cured by bleeding from the arm twice, succeeded by opiates, and soothing "lavemens."—*Mauriceau, Mal des Femmes grosses*, vol. ii. p. 310.

"Smellie relates several cases. "In about four months after this accident, the same woman became pregnant; and being attacked with sickness at her stomach, and retchings, in her second month, Dr. Smellie was requested to see her. Finding that she had exceeded her usual catamenial period, he ordered her to lose eight ounces of blood from the arm. The vomiting was immediately relieved. From this time forward, till about the middle of the fifth month, venesection was repeated every four weeks, with the same success; and she happily went on to her full time."—*Cases in Midwifery*, vol. ii. p. 83. See also vol. ii. p. 84.

See Denman's Midwifery, p. 152.

"Of the utility of this practice, the general testimony of practitioners, and my own observation, fully convince me. It does good by relieving that state of the origin of the eighth pair of nerves, which occasions the irritability of the stomach, just as it would abate vomiting on other more formidable cerebral affections. It also acts on the sympathetic nerve, the cæliac plexus of which sympathises with the uterine."—*Burns's Midwifery*, p. 253.

"As the irritability which prevails during the early months must be ascribed to suppression of an accustomed evacuation, so the most effectual mode of relieving it is by venesection. If the patient can support blood-letting, or have no objection to it, from four to six ounces should be taken from the arm monthly, at or near the period when the menses should have appeared. When the individual is too delicate to bear phlebotomy, or has a dislike to it, let an adequate number of leeches be applied either to the epigastric region, or the groins."—*Campbell's Midwifery*, p. 521.

[2] Diseases of Women, p. 302.

[3] Traité des Accouch. vol. i. p. 132.

[4] Obstetric Medicine, vol. i. p. 859.

[5] Obstetricy, p. 177.

[6] Mal. des Femmes, voi. i. p. 389.

Benefit is frequently derived from counter-irritation to the epigastrium by means of a blister, turpentine, or mustard poultice.

If the sickness be not very severe, effervescing draughts will occasionally afford relief. If necessary, a few drops of laudanum may be given with each.

Narcotics and opiates are frequently successful, and especially after bloodletting (Denman,[1] Davis,[2]); but their constipating effect must be corrected by enemata or cathartics. A very useful method of exhibiting laudanum is by wetting a cloth with it, and applying that to the stomach. Dr. Heberden states that "the application of a piece of folded cloth, moistened with laudanum, to the region of the stomach, has been of considerable service when internal medicines of the highest estimation have proved ineffectual." (Burns,[3] Blundell.[4]) Or the opium may be given in an enema of starch or warm water. (Campbell.[5]) Denman has thrown out a doubt as to the effect upon the fœtus; but I have not met with any cases which confirm his view.[6]

Various kinds of antispasmodic remedies have been tried, but without much benefit; in fact, it would be as useless as difficult to enumerate all the remedies that have been employed, and often in vain, against this distressing complaint.

When the ejected matter is acid, charcoal and other alkaline substances are found useful; and if these fail, acids may be tried. (Dewees[7], Ashwell,[8] Blundell.[9]) Hydrocyanic acid has been tried,

[1] Midwifery, p. 152.
[2] Obstetric Medicine, p. 859.
[3] Midwifery, p. 254.
[4] Obstetricy, p. 178.
[5] Midwifery, p. 521.
[6] "Perhaps no well grounded objection can be made to the occasional use of opiates, when violent pain, or any other urgent symptom, demands them. But I have persuaded myself that their habitual or very frequent use is prejudicial to the fœtus—either by debarring it from a proper supply of nourishment, or by depraving that with which it is actually supplied: but of this opinion I begin to have some doubt."—*Midwifery*, p. 152.
[7] "We rarely persevere in the use of the alkaline remedies, when we find that considerable doses will scarcely have a temporary effect. When this is the case, we have recourse to the acids themselves for the relief of this most distressing state of the stomach. Both vegetable and mineral have been employed by us, with about perhaps equal success; but the vegetable will merit the preference in general, on account of the teeth. We have in several instances confined the patients for days together upon lemon juice and water, with the most decided advantage." "One lady, a patient of ours, took the juice of a dozen lemons daily, for many days together, with the most decided advantage, and no earthly thing besides."—*Compendium of Midwifery*, p. 111.
[8] On Parturition, p. 193.
[9] "It seems, *à priori*, not very probable that powdered charcoal can be of use in these cases, but learning from a friend that in the hospital in New York it had been tried in vomiting with advantage, I was induced to give it an '*essai*;' and I can at least aver, that I have seen no ill effects from it, not to add that it seemed to be of real efficacy. The method of administering it is in the form of a very fine powder, twenty grains every two or three

and successfully. in doses of from two to five drops, in mucilage, several times in the course of the day. (Waller,[1] Blundell.[2]) Slight bitters, especially infusion of columba, are occasionally beneficial (Dewees.[3]) Spearmint tea is also recommended. (Manning.[4]) Iced water will sometimes check the vomiting, and in most cases it is extremely grateful. (Dewees, Ashwell.)

In all cases the diet should be of the lightest kind, without stimulants, and taken in very small quantities at a time, and at that time of day when the stomach is least irritable. It may be necessary to diminish the quantity to the very least sufficient for nourishment; or even to nourish patients by enemata. (Burns,[5] Davis,[6] Blundell,[7] Ashwell.[8]) Some patients obtain a great diminution of their distress by preserving the horizontal position. (Denman.[9])

If the stomach should exhibit symptoms of inflammation, it must be treated in the ordinary antiphlogistic manner, by venesection, or leeches and blisters—due regard being had to the state of the patient; and the same may be employed when the liver takes on inflammatory action, as is not very uncommon.

Should the vomiting, occurring in the latter months, be principally or wholly the result of pressure, we are advised to use bandages, so as to depress the uterus (Smellie); but this would be very hazardous (Gardien, Capuron[10]); the same effects may generally be obtained by change of position.

The mere enumeration of the various modes of treatment is a proof of the difficulty of combating the disease. In some cases we shall fully succeed; in others afford some temporary relief; but in

hours, till it has produced an effect. I ought to observe, that it makes the stools very black."—*Blundell's Princ. and Prac. of Obstetricy*, p. 178.

[1] Ed. of Denman, *Note*, p. 153.

[2] Obstetricy, p. 177.

[3] Compendium of Midwifery, p. 110.

[4] Diseases of Women, p. 301.

[5] Midwifery, p. 253.

[6] Obstetric Med. p. 859.

[7] "Hildanus has reported the case of a woman, who, from irritability of the stomach, rejected all food during the space of five weeks; but she was supported the whole time in the way above intimated (by enemata), being cured, and becoming at length the mother of a vigorous infant."—*Blundell's Obstetricy*, p. 180.

[8] "We do occasionally meet with severe and alarming cases of continued vomiting, where it is necessary to maintain an almost entirely empty state of the stomach, nourishment being by glysters of beef tea and jelly. In one of these instances, after having given opium, I ordered a tea-spoonful of lime-water, or soda-water and milk, every ten minutes. In the course of the day the lime-water was omitted, and the quantity of milk increased, till at length the stomach could retain small quantities of solid food. *Small* doses of the calcined magnesia, taken two or three times daily in milk, will frequently relieve the sickness, by inducing an aperient state of the bowels. A few leeches to the pit of the stomach, followed by a small blister or opium plaster, will occasionally produce much good."—*On Parturition*, p. 193.

[9] Midwifery, p. 153.

[10] Mal. des Femmes, p. 375.

many utterly fail. These latter cases are generally those in which the vomiting is most violent and incessant; and by these, consequently, the patient is most injured. Exhausted by the constant effort, and wasted by the incapability of retaining nourishment, the patient has no prospect but death to herself and child. In such a case, almost any remedy would be justifiable; and one that may afford an additional chance of safety to one of the parties implicated, must be hailed as a boon of great magnitude. Dr. Denman, I believe, was the first to propose the induction of premature labour in such cases: and he says, "The propriety of this practice has also been considered when women have during pregnancy suffered more than common degrees of irritation, and especially when the stomach is in such a state that it cannot bear nourishment of any kind, or in any quantity, and the patients are thereby reduced to a state of dangerous weakness. Presuming that these symptoms are purely in consequence of pregnancy, it may, perhaps, be justifiable to bring on premature labour." Fortified by experience, we can now not only assert the "propriety" of this operation, but give abundant evidence of its success. Dr. Ashwell states, "If, notwithstanding every remedy, the vomiting goes on to debilitate the patient, she may be reduced to a state of extreme danger; in these circumstances, *after consultation*, we think it very justifiable to induce premature labour."[1]

And Dr. Blundell,[2] "Again, should all these remedies fail, you have yet another, and that is, the induction of premature delivery; for when delivery occurs, there is reason to hope this vomiting will cease. In determining on the use of this remedy, however, remember in the first place, that if the woman is very much reduced, there is always danger in these cases, lest the patient should sink under accidental flooding; this ought to be mentioned to the friends before the operation is performed. Nor is it to be forgotten, that when premature delivery is thus brought on, children are often presenting preternaturally—the leg or the nates, the arm or the shoulder, being placed over the centre of the pelvis instead of the vertex; nor that the child may perish under the best management, in consequence of this unfavourable position."

Dr. Davis has recorded successful cases:—"The author has performed the induction of premature labour, in the circumstances above described, three times. In one of them it was had recourse to in the seventh month, the patient having made an error of one month in her reckoning. The child, which was born alive, died in about two hours afterwards; the mother was soon and perfectly restored. The second case was on the whole more prosperous. The child, which had the appearance of one of eight months' growth, was given to a wet nurse who lived in the house, and who took excellent care of it. The mother also eventually recovered. Her

[1] On Parturition, p. 194.
[2] Princ. and Pract. of Obstetricy, p. 181.

sickness left her immediately after delivery; but she was the subject of feeble health, accompanied by a dyspeptic state of the stomach, for some years afterwards. The subject of the third case might be said to have been in a cachectic condition before her pregnancy. When arrived at her sixth month inclusive, she was exceedingly harassed by an intense irritation, from the effect of inanition, as the author supposed, which threatened a speedy and an alarming issue. The operation for the induction of premature labour was performed. The child of course was lost. The mother recovered rather rapidly, and enjoyed moderate good health afterwards, and has since borne several living children at the full period."[1]

Dr. Merriman has also related a successful case, occurring in the practice of a "provincial surgeon of considerable eminence."[2] "She was teased with a severe cough, and her stomach was so irritable as to retain no food whatsoever, nor even opium in a solid form. She had taken absorbents, stomachics, bitters, aromatics, and opiates, without experiencing any relief: liniments, fomentations, and blisters, had been extensively applied, without benefit, and she was thought to be sinking into her grave, when it was proposed, as a last resource, to bring on premature labour, six weeks before the full time, and the patient was delivered of a living child, and ultimately recovered."

Dr. Burns witnessed this operation twice in one patient.[3]

These authorities and cases will, I think, be admitted as fully bearing out the opinion I have expressed of the propriety of the operation, as a last resource, in this disorder.

Dr. Blundell has mentioned, very cautiously, this class of patients as suited for the operation of transfusion;—"In cases of extreme emaciation in consequence of this gastric or intestinal irritability, you will not suppose that I design rashly to advise you to nourish the patient by the injection of blood into the vessels: I cannot however forbear remarking, on this occasion, that this mode of treatment is not altogether impracticable."[4]

I do not know of any cases in which this plan has been tried, but I readily admit that to avoid a fatal result, almost any remedy would be justifiable.

[1] Obstetric Medicine, vol. ii. p. 871.
[2] Med. Chir. Trans.
[3] Midwifery, p. 254.
[4] Prin. and Pract. of Obstetricy, p. 181.

CHAPTER V.

HEARTBURN OR CARDIALGIA. PYROSIS. *Soda. Fer chaud*, Fr. *Sodbrennen*, G.

A great number of women suffer from this form of disease during gestation, but the degree varies much. It may occur at a very early period (Campbell[1]), and even be amongst the first symptoms by which the patient will recognise her condition (Dewees[2]); but in general, it is not until the latter half of pregnancy that it is troublesome. (Imbert.[3]) Cardialgia and pyrosis seem to be merely different forms of the same disease. Women of a nervous and hysteric temperament are peculiarly obnoxious to the disorder. (Capuron.)

Causes.—There is no doubt that certain articles of food may give rise to it, or aggravate it,[4] though more frequently it is owing to the condition of the stomach, induced by sympathy with the gravid uterus. It has been attributed to a morbid alteration of the gastric fluid (Campbell,[5] Gardien), or to the presence of bile in the stomach. (Gardien.[6]) Dr. Burns attributes pyrosis to a complicated affection of the eighth pair of nerves.[7] Mental emotions, or a deranged state of the bowels, may give rise to it. (Campbell.)

Symptoms.—The patient complains of pain and heat at the pit of the stomach, extending along the œsophagus, with occasional eructations of a sour or bitter fluid.[8] Eating greatly aggravates

[1] Midwifery, p. 523.

[2] Compendium of Midwifery, p. 112.

[3] "Antoine Petit places this disease among those which occur at the latter end of pregnancy: I have seen it always in the early months; and Hermann mentions a case in which it commenced immediately after conception."—*Mal. des Femmes*, vol. i. p. 394.

[4] Denman's Midwifery, p. 155.

[5] "A morbid state of the gastric juice obviously exists, from the superabundance of acid."—*Midwifery*, p. 523.

[6] "This affection may be caused by the bile remaining too long in the stomach, or by the gastric acids: it ought then to be considered as idiopathic. These acids may become so acrid as not merely to excite inflammation, but even to corrode the coats of the stomach. Examples of sudden death from this cause are on record. But in most cases, this sensation of burning, called soda or pyrosis, is purely sympathetic in pregnant females."—*Gardien, Traité des Accouch.* vol. ii. p. 58.

[7] Midwifery, p. 258.

[8] "Some patients complain of a burning pain at the pit of the stomach, extending along the œsophagus to the gullet, resembling the impression produced by a hot iron upon these organs. This is what nosologists have called '*soda*,' or '*pyrose*.' Others suffer still more excessive pain, as though the stomach were twisted, stretched, or torn—a species of cardialgia known by the name of '*colique de l'estomac*.'"—*Capuron, Mal. des Femmes*, p. 383.

"*Cardialgia* or heartburn is characterised by a gnawing or burning pain

these symptoms. In pyrosis, this burning pain is much more severe, and more extensive, attended with more copious eructations of watery fluid—hence the popular name, waterbrash. There is a distressing sensation of dragging, from the stomach towards the spine. Vomiting sometimes occurs. The fluid evacuated may be of a bilious character, or clear water; sometimes it is bitter, at others acid, and occasionally so acrid as to excoriate the mouth and fauces.

In ordinary cases there is no constitutional disturbance—the appetite is either destroyed, or the pain attendant upon its gratification is so great that the patient voluntarily abstains from eating, but in the severer cases there is great distress. M. Capuron observes, "This disease, when severe, occasions more or less disorder in other organs; the extremities stiffen, the body shivers, and is covered with cold sweat—circulation and respiration are impeded, deglutition is impossible, and the evacuations are suppressed; enemata with difficulty overcome the constipation, and bring away nothing but hard and black scybalæ. Lastly, according to Boerhaave and others, the patient may die of the agony in less than three hours."[1]

Diagnosis.—It is of importance not to mistake inflammation of the mucous membrane of the œsophagus and stomach for heartburn. In the former the distress is continuous, and gives rise to fever and quick pulse; whilst in the latter the pain and heat come on occasionally, subside spontaneously, and are not accompanied by fever. Lastly, the existence of pregnancy is a presumption in favour of heartburn or pyrosis.

Treatment.—At an early period of pregnancy the disorder may often be relieved by a change of diet, exercise, slight irritation to the pit of the stomach, &c.[2] A dose of magnesia will often remove it.

In more obstinate cases, depending upon acidity, great benefit is

at the cardia: *pyrosis* by a similar sensation at the pylorus, less severe, but more general than in cardialgia, accompanied with a sense of constriction, as if the stomach were drawn towards the spine: occasionally nausea and ejections either of a sour or insipid fluid."—*Campbell's Midwifery*, p. 523.

[1] Mal. des Femmes, p. 383.

[2] "If the cardialgia be sympathetic and nervous, as in hysteric women at the commencement of gestation, it is combated by regimen, exercise, baths, fomentations to the pit of the stomach, and lastly by narcotics and antispasmodics, according to the severity of the pain. If, on the other hand, the disease is idiopathic, and depends upon the presence of acid or noxious matters in the stomach, as happens ordinarily in pyrosis, we must first relieve the stomach of these, and afterwards, by increasing its tone, prevent a return of the disorder."—*Capuron, Mal. des Femmes*, p. 385.

"In cardialgia and 'soda,' (pyrosis) which I consider as only different degrees of the same affection, the indications of cure may be comprised under two heads. We can only diminish or cure the sensation, by neutralising the fluids contained in the stomach, or by expelling them." "When the burning is severe, prudence will dictate the employment in the first instance of soothing and antispasmodic remedies, and of abundant drinks." "When the pains are owing to the presence of an acid, we may at once commence by absorbents."—*Gardien, Traité d' Accouch.* vol. ii. p. 59.

derived from magnesia,[1] simple or combined with ammonia[2]; lime water; preparations of chalk[3]; liquor potassæ, with chalk mixture or mucilage; aerated water of potash or soda (Campbell[4]); acids (Dewees[5]). Drs. Denman[6] and Capuron[7] speak favourably of an occasional emetic. The bowels should be attended to in all cases, and laxatives will in general be necessary, such as rhubarb and magnesia, aloetic pill, compound extract of colocynth, &c.

In some cases the pain will require the use of antispasmodics or opium (Campbell,[8] Imbert,[9]) or even the abstraction of a moderate quantity of blood.[10]

A blister may be applied to the pit of the stomach, or between the shoulders, with good effect; or an anodyne liniment may be rubbed over the abdomen. (Burns.[11])

Mild bitters have been strongly recommended when the stomach is enfeebled.[12]

CHAPTER VI.

CRAMP OF THE STOMACH AND DUODENUM. *Colique.* Fr. *Kolik der Schwangern.* G.

Under this title Dr. Burns has described an affection not very uncommon with pregnant females. It consists of a cramp-like pain

[1] Dewees's Midwifery, p. 113.

[2] Dr. Denman speaks highly of the following formula of Dr. Jas. Sims:

"℞. Magnesiæ ustæ:
Aq. Ammoniæ puræ aa ʒi.
— Cinnamoni ʒiii.
— Puræ ℥vss.
M.

Sumat cochlearia duo vel tria ampla sæpius in die, urgente cardialgiâ."—*Midwifery*, p. 115.

[3] "We lately attended a lady who was much distressed by *heartburn*, and after going through a whole round of remedies, she commenced taking prepared chalk, and through several pregnancies consumed an ounce of it every two or three days. It had this additional advantage, that it not only relieved the heartburn, but preserved the bowels in an invariably aperient and comfortable state."—*Ashwell on Parturition*, p. 169.

[4] Midwifery, p. 523.

[5] Midwifery, p. 113.

[6] Midwifery, p. 165.

[7] Mal. des Femmes, p. 385.

[8] Midwifery, p. 523.

[9] Mal. des Femmes, vol. i. p. 394.

[10] "In obstinate cases, moderate detractions of blood must occasionally be conjoined with the foregoing remedies."—*Campbell's Midwifery*, p. 524.

[11] Midwifery, p. 255.

[12] "Females whose stomachs are naturally feeble, or who have been debilitated by sufferings, or by excess of warm drinks, and with whom the cardialgia increases after a meal, are benefited by the use of good wine, bark, or well-seasoned food."—*Capuron, Mal. des Femmes*, p. 386.

in the region of the stomach and duodenum, occasioning considerable suffering, and even sometimes causing abortion.[1]

It is probably dependent upon the state of the bowels, or may be caused by errors in diet, or mental emotion. In some few cases it would appear to be connected with the passage of a biliary calculus, and may give rise to jaundice.

Occasionally, however, it is a less simple affection, being complicated with congestion of the head, threatening convulsions, accompanied with tenderness of some portion of the spine.

Treatment.—Our first object is to quiet the pain by a full dose of laudanum and ether. (Burns.)

When this is attained, we may proceed to remove the cause, and to correct any intestinal irregularity. Dr. Burns recommends aloetic purgatives, but these may not in many cases be suitable. If there be piles, as is very often the case with pregnant females, they will rather prove injurious than beneficial. I have found Gregory's powder, electuary of sulphur and senna, or castor-oil, to answer the purpose better.

During the intervals of the attack, tonics (of which oxide of bismuth or preparations of iron are recommended,) or stomachics may be exhibited. A belladonna or opium plaster, or a blister over the stomach, is often very useful.

Should the attack be very severe, bleeding, or leeches to the epigastrium may be advisable; this will be especially the case, should there be any symptoms of congestion about the head, and more for the purpose of preventing an attack of convulsions than even for the relief of the gastric affection.

CHAPTER VII.

HÆMATEMESIS, OR VOMITING OF BLOOD. *Hématemèse*, Fr.

In some rare cases, a discharge of blood takes place from the stomach during the early months of pregnancy. It is very seldom in any large quantity, nor does it continue any length of time. It can scarcely be regarded as a dangerous attack; though to the patient it is abundantly alarming.

The *causes* may probably be found in a general or local plethora; or it may possibly arise soon after conception, from the suppression

[1] Burns's Midwifery, p. 256.

"Spasm of the stomach or duodenum is often very severe; and, if allowed to continue for any time, may kill the infant. The warm carminative tinctures, as those of cardamons, rhubarb, senna, with free doses of opium and ether, in general procure immediate relief."—*Ryan's Manual of Midwifery*, p. 429.

of the menstrual discharge. In other cases it may be the consequence of violent straining and vomiting.

Treatment.—The first object is to relieve the system (where plethora exists) by a less hazardous evacuation—viz. blood-letting. After this has been done, blisters to the pit of the stomach, purgatives, acids, and astringents, as recommended, may be tried.

Should the hemorrhage take place during labour, or should labour pains, with dilatation of the os uteri, come on prematurely in consequence of it, Dr. Burns advises that the labour should be hastened.[1]

For more minute details, I must refer the reader to works upon the diseases of the stomach. The disease so seldom occurs during gestation, that I have thought it unnecessary to give them.

CHAPTER VIII.

CONSTIPATION. *Constipation*, Fr. *Verstopfung des Stuhls*, G.

Nothing is more common than for pregnancy to change altogether the habit of the bowels: in cases where, previous to conception, they were quite regular, or even relaxed, they often, during gestation, become so constipated as to require the constant exhibition of purgatives. This change is said to occur most commonly in patients of a bilious or melancholic temperament. (Capuron,[2] Gardien.[3]) The degree to which the constipation may be carried varies much. In the ordinary cases which come under our notice, we may find that three or four days intervene between each alvine evacuation; but where the patient is careless about herself, a longer period—one, two, or three weeks, or even months, may elapse. (Capuron,[4] Campbell.[5])

[1] Midwifery, p. 265.

[2] Mal. des Femmes, p. 397.

[3] Traité d'Accouchemens, vol. ii. p. 80.

[4] "Constipation may continue a longer or shorter time. Certain pregnant females are reported to have passed more than eight days without an evacuation. A case is cited in 'L'Histoire de l'Academie des Sciences,' where it occurred every twenty days, and many others where the fæcal matters were so hardened, by their retention in the intestines, that they had to be extracted by the fingers and by instruments. We had occasion to see a lady —with MM. Pelletan and Dubois—who was constipated for more than three months."—*Mal. des Femmes*, p. 397.

[5] "The period which some females pass without a motion is almost incredible: from nine to ten days often intervene, and even several months have been mentioned. In a case in my practice, the intestines were so much overcharged that, after the expulsion of the fœtus, the attendants thought the woman had another child to bear; and as I did not see the patient until after her delivery, they insisted on my examining *per vaginam*, when I found the rectum distended to the size of a quart bottle. The

The slighter cases of this affection, though troublesome, cannot be said to be in any respect dangerous; but where the constipation is much prolonged, very unpleasant consequences may ensue.

It may occur at the beginning or end of gestation; or it may be troublesome throughout the whole period.

Causes.—By some writers, constipation is regarded as the effect of the pressure of the gravid uterus upon the intestines. (Ashwell, Capuron.) By others, as being the result of an altered state of vitality in the intestines. (Imbert.[1])

There can be little doubt but that both are influential (Kennedy,[2] Campbell[3]); though it may be difficult to define exactly the limits of each.

Siebold has mentioned a mode in which the pressure is exercised, not alluded to by other authors, viz., where the vertex of the fœtus is toward one or other sacro-iliac synchondrosis, *i. e.* in the third or fourth position of Naegelé. He has also attributed constipation to cramp in the intestines.[4]

Symptoms.—In the slighter cases there are few symptoms to call for our interference—general uneasiness and discomfort, slight head-ache, and a moderate increase of heat, may be observed, all disappearing immediately after the bowels are evacuated.

Even in cases where the accumulation of fæces is excessive, we may be deceived by the absence of great uneasiness, and by the fact of fluid stools (in small quantity) passing every day. (Denman[5].)

woman died of peritonitis; fourteen pints of liquid feculent matter were removed from the small intestines, the colon and rectum having been emptied during life by enemata."—*Midwifery*, p. 524.

[1] "I doubt very much whether this compression exists in ordinary cases. Whilst the uterus is enclosed in the pelvis, it is not large enough to obliterate the rectum." "When above the cavity of the pelvis, the intestines are behind it, and in a cavity like the abdomen cannot be compressed so as to obliterate their canal." "Let us admit, therefore, that constipation is a vital lesion, and is to be explained on principles already laid down." That is, from some irregularity of innervation.—*Mal. des Femmes*, vol. i. p. 364.

[2] Signs of Pregnancy, p. 21.

[3] "There are *three* very obvious causes for costiveness: *first*, the sedentary occupation of the sex; *secondly*, the pressure of the gravid uterus upon the rectum and colon: and *thirdly*, an inactive state of the alimentary canal, induced by the preponderating current of nervous energy towards the uterine system."—*Midwifery*, p. 524.

[4] "Constipation may be owing—1. To the augmented activity of the genital system, and the consequent diminished energy of the intestinal canal. 2. To errors in diet. 3. To the pressure of the enlarged uterus. 4. To the pressure of the back part of the head or the vertex upon the gut, in the third and fourth position. 5. To cramps, arising from the increased irritability of the intestines. 6. To the lazy and indolent habits of pregnant females."—*Siebold's Frauenzimmerkrankheiten*, vol. ii. p. 38.

See also Carus, Gynæcologie, vol. ii. p. 202. Joerg, Krankheiten des Weibes, p. 453.

[5] "There is reason to believe that this complaint has often been overlooked in practice; for though the column of indurated fæces is sometimes enormous, a small quantity in a liquid state, escaping between the column of hardened fæces and the side of the intestine, may be daily discharged;

But in the majority of cases where the constipation is obstinate and prolonged, our attention cannot fail to be arrested by the symptoms.[1]

The patient complains of head-ache, sleeplessness or unpleasant dreams, restlessness, and discomfort. She has a sense of weight and fulness in the abdomen, and general uneasiness. The irritability of the system is augmented, and all the sympathetic irritations of pregnancy are increased. The stomach is disturbed, the appetite diminished, and vomiting often occurs. There are pains in the abdomen, and irritation of the mucous membrane of the bowels, giving rise to tenesmus, and a discharge of mucus tinged with blood, or fluid evacuations mixed with hardened scybalæ.[2]

The pains in the abdomen may even be mistaken for labour pains. (Davis.[3])

There is considerable risk of abortion or premature labour from the violent efforts made by the patient to evacuate the bowels. (Burns.[4])

In all cases where we have reason to suspect an accumulation of fæcal matter, it will be advisable to make a vaginal examination, by which we shall be enabled to ascertain the state of the rectum. It will be found distended, often to an enormous size, diminishing considerably the calibre of the vagina. In cases where fluid stools are discharged, we may detect a groove running along the mass of indurated fæces. (Davis.[5])

If this loaded condition of the rectum be not relieved, it will increase both the danger and distress, by exciting inflammation and fever, and may even prove fatal, by inducing sphacelation of the parts. (Denman.[6]) Dr. Burns observes, "In considering the effects of costiveness, not only in pregnancy but in other circumstances, it

so that no suspicion of the real nature of this case may be entertained, unless the stools be inspected, or the patient be examined *per anum*."—*Introduction to Midwifery*, p. 156.

[1] "It has already been observed, that all the sympathetic affections of pregnancy are aggravated by constipation: it induces general uneasiness, nervous and arterial excitement, loss of appetite, restless nights, and erratic pains in the abdomen. The mucous lining of the intestines is irritated, the excretory ducts discharge copiously, and severe peristaltic motion, with tenesmus, harass the patient." "Abortion or premature labour, in a person predisposed, may certainly be produced by the straining efforts for the exoneration of the rectum."—*Campbell's Midwifery*, p. 524.

[2] "The consequences of obstinate constipation are, continued head-ache, anxiety, giddiness, sleeplessness, distressing dreams, vomiting, displacement of the uterus, swelling of the veins of the lower extremities, tedious labour; painful, irregular, and ineffective pains; obstruction to the passage of the child; and subsequent to delivery, great danger of childbed fever, especially if it be epidemic at the time."—*Siebold, Frauenzimmerkrankheiten*, vol. ii. p. 39.

[3] Obstetric Medicine, p. 873.

[4] Midwifery, p. 256.

[5] Obstetric Medicine, p. 873.

[6] Introd. to Midwifery, p. 157.

will be well to attend to the effect on the rectum alone, independently of other consequences; and to recollect the branches, both of the sympathetic, ganglionic, and sacral nerves distributed to that gut, and the remote influence thereby exercised."[1]

Hemorrhoids, or piles, are a frequent consequence of the obstruction offered to the return of the blood by this local pressure. Should this state of the bowels be allowed to continue, we may expect great inconvenience at the time of labour. The descent of the head into the cavity of the pelvis will be delayed, and the passage of the child impeded, or rendered impossible, until by mechanical means the fæcal matter has been removed; and even when delivery has been accomplished, the convalescence is by no means always favourable.[2] "After delivery," says Dr. Burns, "masses of indurated fæces come down from the colon, attended with considerable pain and frequency of pulse, and sometimes fatal peritoneal inflammation."[3] I have already quoted a case of this kind related by Dr. Campbell. The probability of puerperal fever will be much increased, of course, if that formidable disease should be epidemic at the time. (Siebold.)

Treatment.—What has been stated in the preliminary chapters will, I trust, have the effect of preventing neglect as to the state of the bowels during gestation, in those who have the management of the case throughout. But we are not often consulted until the bowels have acquired a habit of constipation, or the patient is alarmed at the long interval which has elapsed since the last evacuation. Now, although it is quite necessary that the bowels should be kept free, yet their condition when pregnancy is not present is not exactly the standard—we must make some allowance, because a slightly confined state of the bowels is in many their *natural* condition during pregnancy.[4] We are not then to

[1] Midwifery, p. 257.

[2] "The editor once attended a labour, in which the hollow of the sacrum was nearly filled up with a hard mass, giving to the finger the sensation of an exostosis; but on a more minute examination it proved to be the rectum filled up with hardened fæces. Great difficulty was experienced in emptying the bowels, after which the labour went on very favourably."—*Note by Dr. Waller, in Denman's Midwifery*, p. 157.

"Not to dwell on the distressing sensations produced by excessive and almost continual constipation previously to labour, we have known, during the act of parturition itself, very serious delay arise from this cause, and more than once we have been compelled to *empty the rectum mechanically, and wash out its contents*, before the head could be propelled into the world."—*Ashwell on Parturition*, p. 196.

[3] Midwifery, p. 258.

[4] "But I was formerly much more assiduous in preventing costiveness than I am at the present time, having observed that all women who go on properly, especially in the early part of pregnancy, are liable to this state of the bowels, which may have some relation to the strong action of the uterus at that time. Costiveness may therefore be considered as a state of the bowels corresponding with that of the uterus, and we can never believe that to be injurious which occurs so frequently as to be esteemed a common consequence."—*Denman's Midwifery*, p. 156.

interfere actively in every case where their action is rather more sluggish than usual; or if we do, it should be by mild methods first, lest by accustoming the intestines to act *only* when influenced by medicine, we aggravate the disorder we seek to remove.

An occasional dose of manna, magnesia, rhubarb, castor oil, compound extract of colocynth, &c. &c., with the use of enemata of warm water, will in most cases answer our purpose.[1] The diet also may be arranged so as to act benefically upon the bowels.

If the case be more obstinate, stronger purgatives and more potent enemata must be used, and we should carefully ascertain in such cases that the bowels have been *adequately* freed. Having succeeded in this object, we must prevent a recurrence of the constipation by the regular exhibition of purgatives or enemata.

If there be experienced much irritation after the evacuation, a dose of hyosciamus (gr. iv. or gr. v.) may be given; or some of the preparations of opium, in doses according to the necessity of the case, followed by a mild laxative.

When there is much irritation, and fever, with tenderness of the abdomen, venesection will be necessary.

If medicine prove ineffectual, there remains nothing for us but to scoop out the fæces from the rectum, softening them with enemata of warm water as we go on; and this is peculiarly necessary, if the patient be in labour. Great care will be necessary after delivery to avoid irritation, and yet obtain a full evacuation of the bowels.

CHAPTER IX.

DIARRHŒA OR RELAXATION OF THE BOWELS. *Diarrhèe*, Fr. *Diarrhöe*. *Durchfall*, G.

Although in the preceding chapter it has been stated that in the majority of cases the habit of body becomes more or less constipated

[1] "We do not advocate the continual exhibition of purgatives, much less those of an aloetic or drastic kind; still, as torpor of the bowels is naturally incident to pregnancy, we are always desirous to prevent any such accumulation of feculent matter as may give rise to injurious constipation." "A tea spoonful of castor oil, taken three or four times a week on going to bed, aided on the following morning by the injection of a pint of warm water into the rectum, will frequently preserve a comfortably aperient state of the bowels throughout the whole period of gestation."

"The following pills may also be safely taken:—

"℞. Extract: Colocynth: co: ℈ii.
Extract: Hyosciami gr. xv.
Ol: Cassiæ gtt. ii. M. ft. Pil: viii.
Sumat ii. vel. iii. urgente constipatione."

Ashwell on Parturition, pp. 195–7.

during gestation, yet it must be confessed that examples of the opposite condition from the same cause are very numerous. Persons who require to take medicine ordinarily, sometimes find the bowels become free and regular without it during pregnancy. Others are subject to habitual looseness, or to sudden, or even periodical attacks of diarrhœa. These attacks may be caused by previous constipation, and alternate with it; or they may coexist, for we occasionally find fluid stools discharged in consequence of irritation of the lower portion of the intestine, whilst the fæcal matter is accumulating largely above the seat of the irritation.

Diarrhœa may occur at any period of pregnancy; it sometimes follows conception so closely, that the patient has her attention first drawn by it to her situation, and it may return every month, as though it were vicarious of the menses.[1]

Cause.—As already mentioned, it may be caused by conception, and continued as a constitutional evacuation; or it may follow after constipation.

It may arise from cold, to which pregnant females are very liable, partly owing to defects of dress; or from mental emotion, or from a diseased state of the lining membrane of the intestines.

Symptoms.—The discharge varies much in frequency and in character. There may be two or three large evacuations, or ten or fifteen smaller ones. The discharge may resemble coloured water, or it may be dark-coloured, offensive, and even acrid.

The milder attacks are unaccompanied by pain; but from the severer ones the patient suffers considerably. Tenesmus is occasionally present.

Where the attack is slight, the constitution scarcely sympathises at all; the patient complains of weakness and languor, but there is no feverishness. In severer cases, especially when there is inflammation and ulceration of the mucous membrane, the pain is great; there is oftentimes a sensation of burning, the pulse is quickened,

[1] "A lady, the wife of a merchant, of a spare habit, and bilious temperament, but of a remarkably flaccid disposition, was always seized immediately after conception with a diarrhœa, which returned *with unfailing regularity every month during the whole of the pregnancy*, and was often accompanied on its return by violent pains of the stomach. The occurrence of this periodical diarrhœa was always considered by the lady herself an indubitable sign of pregnancy. The symptom continued at each period for seven or eight days, and on each day she had from fourteen to twenty-five copious alvine discharges. Although she took but little food, she nevertheless enjoyed a moderately good state of health and spirits. When the case was reported, she was the mother of three healthy children. In her first pregnancy, medicines were exhibited with the intention of stopping the looseness; but they produced such unfavourable symptoms, that they were soon put a stop to. In the absence of pregnancy, the catamenia, in the case of this lady, flowed regularly, healthily, and plentifully; whilst during the first week after conception, and till the accession of the diarrhœa, a copious fluor albus took place, which then became arrested, and did not return."—*Comm. by Dr. P. Romellius, Ephemered. Germ.* dec. 2, an. 5, p. 303; *Davis's Obstetric Medicine.*

the tongue dry, the skin hot, with much thirst, the appetite is diminished, and vomiting occasionally occurs. The stools are not only frequent, but dark-coloured and offensive.

If it be obstinate and severe, diarrhœa is even more likely than constipation to cause abortion (Denman[1]), particularly about the third month.

The worst form may prove fatal to the mother before or after delivery, but these cases are not common.[2]

Diagnosis.—It is of importance, as to the treatment, to distinguish the diarrhœa which is an increased secretion from the mucous membrane merely, from that arising from inflammation; and this may be done sufficiently well by observing the effects upon the constitution—the former producing little or none, and the latter considerable disturbance, as already noticed.

Treatment.—It is not always wise to stop these discharges too suddenly, especially when periodical; we may content ourselves with restraining them, which may generally be done effectually by the chalk mixture, either alone, or in combination with kino or catechu. Sometimes moderate doses of hydrarg: c. creta, with Dover's powder, is preferable.[3] If these fail, opium may be given alone, or in combination. A very effectual mode is to administer it in starch as a glyster.

If the discharge, though frequent, be insufficient, a dose of castor oil, with twenty or thirty drops of laudanum, will generally afford relief.

In the severer attacks, venesection, or leeches to the anus, may be necessary, with mild purgatives. Dr. Burns says, "Small doses of rhubarb give great relief, and one grain of ipecacuanha may occasionally be added to each dose of rhubarb." When the irritation and fever subside, anodyne enemata may be given. Blisters are occasionally useful.

The patient will find great relief from being clothed entirely in flannel.

The diet should in all cases be bland, though nutritive. I have found milk diet very useful and agreeable.

[1] Midwifery, p. 159.

[2] "It resembles dysentery—it seldom proves fatal before, but often after delivery."—*Burns's Midwifery*, p. 259.

[3] Dr. Waller strongly recommends the following medicines for removing this irritable state of the bowels:—

"℞. Sodæ Tartar: ʒi.
Cretæ ppt: ℈i.
Syr: Papav: alb: ʒi.
Aquæ Menth: Sat: ʒx.
M. ft. Haustus 4tis horis sumend.

In addition to which, if the patient be restless, she may take at bed time:

"℞. Hyd: c. Cretâ: gr. v.
Pulv: Ipec: Co: gr. v. ad gr. x.
M. ft. Pulvis."
—*Denman's Midwifery*, p. 159.

CHAPTER X.

ICTERUS OR JAUNDICE. *Ictère, Jaunisse*, F. *Gelbsucht*, G.

This is a disease which most frequently affects the latter months of pregnancy, though it does occur at an earlier period occasionally. It is said that women of a fair complexion are more subject to it than brunettes, and that it is more common in winter than summer. (Imbert.) We sometimes see attacks of jaundice, which, after a little time disappear; but it generally lasts the remaining period of gestation.

Causes.—The proximate cause may vary. 1. It may arise from the pressure of the enlarged uterus or intestines upon the gall duct. (Blundell.[1] Campbell.[2]) This is probably the principal cause at a late period of gestation; but it can have no effect at an early period, before the uterus has left the cavity of the pelvis.

2. In these cases, it is probably owing to that sympathy which the chylopoietic viscera have with the womb.

3. It may arise from some obstacle within the gall bladder, such as a gall stone, impeding the passage of the bile through the duct. (Siebold.[3])

4. In some cases, there appears to be a congestive enlargement of the liver giving rise to it, which continues during pregnancy, and terminates with it. (Imbert.)

5. It may be owing to an idiopathic disease of the liver, as inflammation, occurring accidentally during pregnancy. (Siebold.)

Cold or chagrin may prove one of the exciting causes.

Symptoms.—It will in most cases be found that the patient has been suffering from a disordered state of the stomach and bowels previously; in some females it occurs after a fit of vomiting, accompanied with tension and weight about the epigastrium or right hypochondrium; in others there are no precursory symptoms.[4]

Generally speaking, the attack does not involve more inconvenience than this; but in some cases there are shiverings and flush-

[1] "When it merely arises from gestation, it is to be ascribed, I presume, to the pressure of the uterus, which, not coming in contact itself with the biliary ducts, may however press other parts—the intestines, for example—against them."—*Obstetricy*, p. 199.

[2] "In early pregnancy it is difficult to say by what cause or obstruction icterus may be induced; but in the advanced stages it may be safely referred to the pressure of the enlarged uterus, or to some morbid condition of the liver itself."—*Midwifery*, p. 527.

[3] Frauenzimmerkrankheiten, vol. ii. p. 85.

[4] "The patient is sometimes seized with this affection without any previous warning; but generally it is preceded by a fit of vomiting, tension, and a sensation of weight in the right hypochondrium, alternate shiverings and flushes, cough, and loss of appetite."—*Campbell's Midwifery*, p. 527.

ings, cough, loss of appetite, and pain in the right side, with frequency of pulse, high-coloured urine, and torpid bowels. When inflammation attacks the liver during pregnancy, it presents the usual symptoms of loaded tongue, quick pulse, severe pain, tenderness, &c.

Sometimes the disorder of the stomach and bowels continues, and aggravates the suffering of the patient; in other cases it subsides after a few days.

When the distress is considerable, abortion may result, though this is not common in the early months of pregnancy, probably because the jaundice then arises from sympathy with the uterus. (Campbell,[1] Davis,[2] Imbert.[3]) It is possible, also, that inflammation of the liver, causing jaundice, may prove fatal to the mother (Ashwell[4]); though this is rather unusual. (Siebold.)

Diagnosis.—It is of great importance to distinguish the jaundice which arises from sympathy or mechanical obstruction, from that dependent upon inflammation: and our diagnosis will be grounded mainly upon the period of pregnancy, and the absence or presence of local symptoms.

Some females acquire a dark, almost yellow, colour of skin during pregnancy, which must be carefully distinguished from the

[1] Midwifery, p. 527.

[2] Two cases of jaundice, complicated with pregnancy, are mentioned by Dr. Davis. "One patient was married, and gave intimation of her being pregnant; the other was not married, and concealed her situation. The first was received into hospital, as a subject of tertian ague, for which one of the physicians prescribed bark. But the bark disagreed, and produced vomiting and abortion. In two days afterwards the whole of the jaundice had disappeared. She had advanced in her pregnancy about five months. The other, being an unmarried woman, omitted to mention the fact of her pregnancy. She was treated actively for jaundice by another physician, who gave her emetics. Part of her ovum came away, and was followed by a sanguineous discharge. She then confessed that she was pregnant. The emetics were laid aside, and innocent *placebos* were substituted. All her jaundice left her, and in a few days subsequently she was delivered of the remainder of her ovum."—*Obstetric Medicine*, vol. ii. p. 872.

[3] "I witnessed an attack of jaundice in a female, æt. 40, pregnant for the ninth time, and at the second month of gestation I could feel the liver three finger-breadths below the edge of the ribs; and after delivery it appeared even larger than before. I felt great fear of the results. For four days she had a brisk attack of fever, but the breasts filled, the secretion of milk took place, the jaundice disappeared, and the woman recovered her health, so as to be about her ordinary occupations in fifteen days, although the liver continued somewhat larger than natural. Il me parait donc plus juste de dire avec Van Swieten, que les jaunisses des femmes grosses sont presque toujours fort simples."—*Mal. des Femmes*, vol. i. p. 392.

[4] "We should especially recommend an early regard to affections of the liver during pregnancy, if they be conjoined with inflammation. A lady, the wife of a very able practitioner in the country, was attacked with symptoms of *jaundice* in the latter months; they were not altogether disregarded, but inflammation of the liver succeeded; and notwithstanding the most vigorous treatment, it terminated fatally in a few days."—*On Parturition*, p. 165.

disease in question, as it is of no consequence, requiring no treatment, and disappearing after delivery.

Treatment.—If unaccompanied by severe symptoms, all that we need do, is to attend to the state of the stomach and bowels, relieving any irritation, and keeping the latter free.

The co-existence of pregnancy will forbid the use of the more active methods of treatment in the severer cases; but small doses of blue pill may be given, followed by a laxative. (Burns.) Purgatives may be repeated every second or third day with benefit.

If there be evidence of spasm, opium or Dover's powder may be necessary, to allay irritation.

When the jaundice is the result of pressure merely, it may sometimes be relieved by lying constantly on the left side.

In patients of a full plethoric habit, where there is much pain or irritation, it may be well to take away a little blood.

Should the jaundice be dependent upon an attack of inflammation, the usual antiphlogistic remedies must be employed, according to the violence of the disease, modified only by the existence of pregnancy. For details upon the method of treatment, the reader is referred to works upon the subject.

DISORDERS OF THE CIRCULATING SYSTEM.

It cannot appear surprising that the circulating system should suffer derangement during pregnancy, if we recollect that, in addition to the direct effect produced upon it by the gravid uterus, it is also greatly influenced by the sympathetic irritations of other organs. Thus, even if it did not sympathise with the uterus, still it would be liable to disturbance from disordered stomach or bowels, or from impeded respiration. The influence of pregnancy, therefore, upon the heart's action results from a combination of direct sympathy with the uterus and with the disorders of other organs or systems.

CHAPTER I.

PALPITATION OF THE HEART. *Palpitations. Battements de Cœur*, Fr. *Herzklopfen*, G.

Almost all females suffer from attacks of palpitation at some period or other of their pregnancy, especially those of a nervous and hysterical temperament.[1] By some it is felt immediately after conception; by others at the period of quickening; and by a third class towards the end of gestation. The attack may be occasional, disappearing spontaneously, or it may continue days, weeks, or even months.

Causes.—It is usually stated, and I believe correctly, to arise from sympathy with the uterus, especially in the early months of

[1] "It is certain that delicate, hysteric, and irritable females are more tormented with palpitations during pregnancy than others, whether the inconvenience were felt before conception, or whether this new condition have augmented their peculiar sensibility; or lastly, whether it be caused by flatus pushing up the diaphragm, and oppressing the heart, as in the cases published by Senac, Malpighi, &c."—*Capuron, Mal. des Femmes*, p. 411.

pregnancy, and from mechanical pressure in the latter months of gestation. (Gardien,[1] Siebold,[2] Campbell.[3])

M. Imbert denies that pressure can have any thing to do with it. There is no doubt, at least, that if it have any influence, it is directly contrary to M. Imbert's theory of disease.

Among the exciting causes may be enumerated mental emotion, disordered stomach and bowels (Capuron,[4]) flatulence (Gardien), difficult respiration, errors of diet, &c. The motions of the child not unfrequently give rise to it, and it may result from a change of temperature or of position. Thus it is some time before some patients can bear the horizontal posture in bed; and even changing from one side to the other will often produce it.

Siebold places general plethora among the most influential causes.[5]

Palpitations may also arise from organic disease of the heart during pregnancy, but these cases are not common.

Symptoms.—The attack may come on suddenly, or be preceded by some functional disorder. The patient feels the heart strike violently against the ribs, so as to shake the whole body, and even to be audible to the sufferer. If it continue, the arteries of the body participate more or less; and the patient will complain of pulsation throughout the whole frame.

In general the heart's action is regular, though excessive; but in some cases a marked and frequent intermission may be observed.[6]

[1] "The palpitations arising from pregnancy are of a purely nervous character, and one of the numerous symptoms of an hysterical affection." "Two causes, dependent upon their new condition, occasion them to be more frequent and more fatiguing than at other times. The pressure of the womb upon the iliac arteries, and abdominal vessels, occasions a reflux of blood towards the superior parts of the body. And in the latter months of gestation, the stomach and diaphragm are pressed upwards, the pericardium and the heart more or less displaced, which must necessarily influence the movements of this latter organ, and render them more irregular and violent than ordinarily."—*Traité d'Accouch.* vol. ii. p. 86.

[2] Frauenzimmerkrankheiten, vol. ii. p. 181.

[3] "It consists in violent and irregular action of the heart, which may arise either from its functions, or those of the larger canals, being obstructed, and from causes acting through the medium of the nervous system, of which, by far the most frequent is mental emotion. To these may be added surfeiting, indigestion, and torpid bowels. Women of acute feelings, and of a plethoric habit of body, are most subject to palpitations. The progressive enlargement of the gravid uterus, its consequent encroachment on the thoracic cavity, and the interruption which so large and ponderous a body must give to the circulation in the aorta, and its immediate divisions, will sufficiently explain the occasional occurrence of this affection."—*Midwifery*, p. 512.

[4] Mal. des Femmes, p. 412.

[5] Frauenzimmerkrankheiten, vol. ii. p. 180.

[6] "The heart palpitates with greater violence and irregularity than ordinarily; it strikes more forcibly against the ribs; the patient is awoke with a start; the pulse varies from its natural state; it is irregular, more or less

If asleep when the attack occurs, she starts up suddenly, as it were in a fright; and if walking, she is obliged to stand still.

Other organs also participate in the distress; the respiration becomes hurried or impeded, and the nervous system is disturbed, giving rise to headache, giddiness, imperfect vision, noise in the ears, and to a sensation of approaching apoplexy.

It is often connected with, and increases the tendency to, the hysteric affections so common during gestation.

Generally speaking, palpitations can scarcely be called a serious disorder, though very inconvenient, from the interruption of the patient's rest, and the difficulty of taking sufficient exercise.[1]

In some few cases it is said to have aided in causing abortion; and Dr. Burns supposes that its continuance may excite pulmonic disease,[2] though this appears to be rather problematical.

Treatment.—If we are called to the patient during a paroxysm, our first duty will be to place her in that posture which affords the greatest comfort, either lying down, or supported by pillows. If she be of a robust plethoric habit, we must have recourse to venesection. (Capuron,[3] Imbert,[4] Campbell.[5]) This will generally afford some relief. If, however, she be delicate, and of a nervous temperament, it may not be advisable, but we may substitute quiet, and antispasmodics or stimulants, such as hartshorn, assafœtida, valerian, camphor, &c.

Opiates are often very useful, either alone or in combination.

During the intervals between the paroxysms, tonics may be given, and the preparations of iron, especially the muriated tincture, have been strongly recommended. The antispasmodics may also be continued, and the spine rubbed with a stimulating embrocation. The state of the digestive organs must be carefully regulated, and the bowels kept free. The diet should be light and nourishing, and very little food should be taken in the morning. The head should be raised by pillows during the night.[6]

accelerated, and sometimes intermittent; but there is no fever."—*Capuron, Mal. des Femmes*, p. 411.

[1] "These palpitations are not a serious disorder, though an indisposition sufficiently inconvenient, and even painful, to induce us to attempt their relief. They impede the walking, especially up stairs; they destroy the appetite, trouble the sleep, and may cause vertigo, giddiness, &c."—*Imbert, Mal. des Femmes*, vol. i. p. 413.

[2] Midwifery, p. 262.

[3] Mal. des Femmes, p. 412.

[4] Mal. des Femmes, vol. i. p. 413.

[5] Midwifery, p. 513.

[6] "Pregnant women should have the head raised during the night, and lie upon that side which diminishes most the congestion and pressure; they should avoid sitting much, and especially leaning forwards; they should avoid undue pressure by their clothes, and not clothe themselves too warmly; and lastly, the state of the excretions (particularly the alvine) should be carefully regulated."—*Siebold's Frauenzimmerkrankheiten*, vol. ii. p. 182.

Exercise in the open air is necessary to the patient's health, but fatigue should be avoided, as well as all mental emotion, or other exciting causes.

The dress should be so arranged as that no unequal or excessive pressure shall be felt.

CHAPTER II.

SYNCOPE OR FAINTING. *Syncopé. Evanouissement*, Fr. *Ohnmachten*, G.

Fainting is not a frequent occurrence during gestation, except perhaps at the time of quickening. (Manning.[1]) It does however occur at other periods, either occasionally or repeatedly, or even periodically. (Capuron,[2] Campbell.[3]) I have known a patient subject to it, from very slight causes, during the whole period of pregnancy. Others suffer from it during the time of parturition, whether previously affected by it or not.

Healthy females are sometimes so attacked, but more frequently the weakly and delicate.

Causes.—It seems sometimes a consequence of palpitation, and is doubtless caused by a disturbance in the cerebral circulation, whether the heart or brain be primarily affected.[4]

It is often excited by the first movements of the child, although they are very weak; and by subsequent ones, when strong. (Gardien,[5] Imbert.[6]) Want of sleep, mental emotion of a violent kind,

[1] On Diseases of Women, p. 307.

[2] "There are some with whom syncope returns periodically every month, every week, every two or three days, or even more frequently."—*Capuron, Mal. des Femmes*, p. 414.

[3] Midwifery, p. 511.

[4] "Ainsi c'est à la suspension des mouvements du cœur qu'il faut rapporter tous les phénomènes qui s'observent dans la syncopé. C'est un point que Bichat a fort bien démontré. Je ne diffère avec lui sur ce point qu'en ce qu'il ne voit dans la syncopé que le cœur, tandis que je fais remonter ses fonctions et ses maladies à la portion de moelle qui l'anime."—*Imbert, Mal. des Femmes*, vol. i. p. 414.

"As in the gravid state, fainting seizes individuals so suddenly, and that too while they are in perfect health, it is difficult, more especially in the early months, to account for it; since the uterus at this period cannot, from its bulk, produce any interruption or irregularity in the circulation of the heart or larger vessels. The womb however may influence the heart in another way, viz., through the medium of the nerves, whereby irregularity of its action, as often happens from a similar cause on other occasions, is produced; this inordinate action may lead to some irregular distribution of the blood in the cerebral vessels, and hence fainting."—*Campbell's Midwifery*, p. 511.

[5] Traité d' Accouch. vol. ii. p. 74.

[6] Mal. des Femmes, vol. i. p. 415.

great exertion, rapid motion, offensive sights or odours, heated rooms, &c. &c. will give rise to it. It is also said to be induced by the opposite states of anemia and plethora.

Symptoms.—There are generally premonitory symptoms, but their course is so rapid that the patient is unable to call attention to them. She suffers from a sense of languor, weariness, and weakness, with a frequent inclination to sigh or yawn; surrounding objects seem turning round; her sight becomes obscure; she fancies that different things are floating before her eyes; her face becomes pale; there is a rushing noise in her ears, and she faints, or becomes insensible. During the fit, the wrist is pulseless, the heart beats very faintly, respiration is nearly suspended, the muscles lose their power, and a cold sweat breaks out over the body. There are, however, no convulsive motions of the limbs, nor any frothing at the mouth. After an interval, varying from a few minutes to several hours (Imbert[1]), respiration becomes more distinct, the patient utters a few long drawn sighs, the pulse at the wrist is perceptible, the colour partially revisits the face, and consciousness is restored. In some cases, consciousness is not entirely lost, and in others, still more rare, it is long before it is regained. The patient may even pass into a state of asphyxia, and die.

Dr. Burns[2] has described another form of the disease. He says—

"There is a species of syncope that I have oftener than once found to prove fatal in the early stage of pregnancy—dependent, I apprehend, on organic affections of the heart, that viscus being enlarged, or otherwise diseased, though perhaps so slightly as not previously to give rise to any troublesome, far less any pathognomonic symptoms. Although I have met with this fatal termination most frequently in the early stage, yet I have also seen it take place so late as the sixth month of pregnancy."

It is probable that an occasional fainting may do no mischief to the fœtus; but we cannot suppose its frequent occurrence to be innocuous, when we consider the dependence of the fœtus upon the maternal circulation, for the aeration of its blood. Cases are on record, where abortion followed repeated syncope. (Van Swieten, Capuron.[3])

Towards the end of pregnancy, fainting is regarded with great suspicion, not so much for the immediate consequences, as for its effect upon the convalescence after parturition.

Syncope is a very unpleasant occurrence at the time of labour; it sometimes follows each pain, causing great alarm, and without apparently influencing the progress of delivery, as in a case under my care, in which no evil results followed;[4] but in other cases

[1] Mal. des Femmes, vol. i. p. 415.

[2] Midwifery, p. 264.

[3] Mal. des Femmes, p. 415.

[4] "We have seen several instances where the pains of labour were regularly followed by syncope. In these cases, this condition of the system did not seem to interrupt the progress of the labour in the slightest degree, as

the convalescence would seem to be compromised by it. (Merriman.[1])

Diagnosis.—It will be necessary to distinguish this fainting, arising from functional disturbance, from that induced by organic disease of the heart, which in most cases may be done by auscultation.

Further, we may have fainting as a consequence of internal hemorrhage, but it is generally more prolonged, accompanied with tension of the abdomen, dull pain and weight in the pelvic region, permanent blanching of the surface, and, after a short time, by escape of blood from the vagina.

Syncope may be distinguished from an hysteric paroxysm by the absence of convulsive motions of the limbs, distortion of the face, and frothing at the mouth.

The *Prognosis* is only grave in those cases where the syncope is repeated and prolonged, accompanied with headache, or where there is evidence of organic disease.

Treatment.—During the paroxysm, our first attempt must be to restore the circulation by means of stimulants, as wine, hartshorn, carbonate of ammonia, &c. The patient should also be laid in a horizontal posture, with the head low, and a current of air be suffered to blow over the face. A sprinkling of cold water is often successful.

If the insensibility be prolonged, the patient must be brought near the fire, and frictions used, to "preserve the heat of the body, otherwise a protracted syncope may end in death." (Burns.)

Between the attacks, we must endeavour to strengthen the system, by air and moderate exercise, and the exhibition of tonics, such as quinine, infusion of orange peel, &c. (Boerhaave, and Van Swieten.)

The bowels must be carefully attended to, and every possible cause strictly avoided.

this affection was constitutional, and pretty uniformly occurred in these individuals, from any great excitement or alarm, or from pain or temporary exhaustion. In such cases, we never thought of interfering with the natural progress of the labour."—*Dewees's Midwifery*, p. 252.

[1] "It seems to be one of those occurrences during labour, which should never be totally disregarded, or treated with indifference. An accoucheur was once attending a young woman, in labour of her first child. Soon after it commenced, and during his absence, she fainted without any obvious cause. On his return, the circumstance was mentioned, but as by this time she appeared perfectly recovered, no further notice was taken of it, and she was safely delivered, without any other unusual symptom. On the third day after delivery, she took a dose of some aperient medicine, and while in the act of relieving herself, she fell back, and immediately expired."—*Synopsis*, p. 137.

DISORDERS OF THE RESPIRATORY SYSTEM.

CHAPTER I.

DYSPNŒA. *Dyspnée, ou difficulté de respirer*, Fr. *Asthma der Schwangern*, G.

Difficulty of breathing may attack females at any period of pregnancy; sometimes we find it during the early months (Capuron); in other cases about the period of quickening (Imbert); but most frequently during the latter months. (Imbert, Burns, Campbell.)

A different pathological cause has been assigned for each of these periods. During the early months, the affection would seem to be of an hysteric character, brought on by the sympathy with the uterus, very often connected with the palpitations of which I have recently treated, and occurring in women of a nervous temperament. (Capuron.[1]) This seizure is generally sudden, the duration uncertain, though short, and without constitutional disturbance.

When the dyspnœa occurs about the middle of gestation, it is principally (though not entirely) among the robust and healthy, and seems to be owing to a plethoric or congested state of the lungs. Some authors attribute it to pneumonia, which is said to be not infrequent. Imbert speaks of the occurrence of pulmonary apoplexy as a cause of dyspnœa.[2] In this variety there is often a good deal

[1] "Some naturally nervous females breathe with more than ordinary difficulty after conception, owing to a state of spasm produced by sympathy of the uterus with the entire organism. Others only experience this about the middle of pregnancy; and these are chiefly those of a plethoric or sanguine temperament, who previously menstruated profusely, or those who lead an indolent life, and indulge in the pleasures of the table. Lastly, there are few women whose respiration is not more or less impeded during the latter months of pregnancy, especially with the first child, because then the abdominal parietes are more resisting, and press the womb more upwards towards the diaphragm."—*Capuron, Mal. des Femmes*, p. 432.

[2] "The dyspnœa which accoucheurs attribute to plethora, would be rendered more intelligible by stethoscopic researches. What is the state of the pulmonary parenchyme, or of the mucous membrane, in this affection? It is probably very variable. These researches would be the more useful, as it is of the greatest importance to prevent pulmonary congestions. Many accoucheurs have pointed out the frequency of pneumonia in pregnant women, and the danger which attends it, and I have had three times an opportunity of seeing this melancholy prognosis verified. It is in these cases that we observe the terrible congestions known by the term 'pulmonary apoplexies.'" —*Imbert, Mal. des Femmes*, vol. i. p. 401.

of constitutional disturbance; the countenance is flushed, the pulse is quick, and the patient complains of a weight in the head, &c.

The third variety of dyspnœa which occurs during the latter months of pregnancy, depends apparently upon a mechanical cause, viz. the pressure of the enlarging uterus, which, carrying before it the intestines, ultimately pushes up the diaphragm, and, by distention of the abdominal parietes, prevents the expansion of the chest. (Burns, Gardien.[1]) This is observed especially in first pregnancies, in which, owing to the resistance offered by the abdomen, the uterus is more perpendicular than subsequently. (Campbell,[2] Imbert.[3]) If in such cases there be any inflammation of the chest, the distress is much aggravated.

I shall merely mention, as another cause, the presence of organic disease, as phthisis, during (though unconnected with) pregnancy.

Among the exciting causes may be mentioned, excessive fatigue, mental emotions, affections of the circulating and nervous systems; and especially a peculiar condition of the latter, arising from certain odours. A curious variety of the disease, depending upon this cause, has received the name of hay-fever. This occurs during the summer, from the perfume of new hay. The patient may be quite free from this disease in town, but whenever she drives into the country, and inhales the rich odour of the newly-mown grass, the dyspnœa comes on, and is only relieved by removing to a distance from the cause.

The *Prognosis* of this disease is not serious, except when there is an organic affection of the lungs. (Blundell.[4])

Treatment.—During the early months, when the disorder is merely an hysteric attack, it is often relieved by antispasmodics, or diffusible stimulants, such as valerian, hartshorn, ether, &c. with mild tonics during the intervals. If we fail, still in many cases we shall find the dyspnœa cease as pregnancy advances.

[1] Traité d' Accouch. vol. ii. p. 85.

[2] "Respiration must also be more or less impeded, by the uterus occupying so large a proportion of the abdominal cavity, and distending its parietes, whereby the elevation of the ribs must be obstructed in the act of inspiration. By whatsoever cause the natural expansion of the lungs is interrupted, a check is at the same time given to the circulation through these organs—hence congestion of them, and an aggravation of all the diseases with which they may be affected."—*Campbell's Midwifery*, p. 506.

[3] "Desormeaux a eté temoin d'un cas de ce genre. La malade etait une jeune femme dont la tallie etait contrefaite. La respiration etait tellement difficile que pendant les deux derniers mois de la grossesse, elle fut obligée de garder une position verticale. Elle se reposait et dormait en se mettant à genoux sur des coussins tres élevés. La moindre inclination du corps en arriere, produisait une menace de suffocation. La respiration etait fort incomplete, la face tumefiée, les levres bleuatres. Cette dame fut obligée de rester debout pendant tout le travail de l'enfantement qui fut long, penible et ne peut etre terminé que par l'excerebration de l'enfant. Elle mourut trois jours après l'accouchement sans douleur et sans fievre. Elle semble s'eteindre par une asphyxie lente."—*Imbert, Mal. des Femmes*, vol. i. p. 402.

[4] Obstetricy, p. 199.

When the attack arises from congestion of the lungs, venesection will be necessary, with brisk purgatives; and if pneumonia be present, the depletion must be more extensive, and tartar-emetic, or calomel, be given in moderate doses. In ordinary cases, pregnancy is no bar to the employment of antiphlogistic measures.[1]

Other organic diseases must be treated according to the rules laid down in the best authorities, but which it would be foreign to the object of this treatise to enumerate.

As for that which may be called mechanical dyspnœa, little can be done beyond choosing the best position for the patient, and keeping the bowels free. In such a case as M. Desormeaux's, there could be little doubt about the propriety of inducing premature labour. Fortunately such cases are very rare.

In all cases the state of the stomach should be attended to; the diet so arranged as not to give rise to flatulence, which will inevitably increase the distress; and the bowels kept free.

Of course, all exciting causes should be most sedulously avoided.

CHAPTER II.

COUGH. *Toux*, Fr. *Husten der Schwangern*, G.

Connected with the dyspnœa described in the last chapter, but often independent of it, is a troublesome cough; either constant, short, and teasing, or recurring in violent paroxysms, occasioning great distress and inconvenience.

The cough, which is peculiar to pregnancy, occurs only in the earlier and latter months of pregnancy; but the patient may suffer from catarrh, accompanied by cough, at any period. (Burns, Campbell, Gardien, Miquel, &c.)

During the early months, the affection is induced by the sympathy between the pulmonary organs and uterus, and is evidently nervous or spasmodic. (Miquel, Campbell.[2]) There is rarely any

[1] Many instances might be adduced to prove this. I shall merely refer to Dr. Rush's account of his treatment of yellow fever; and a remarkable case by my friend Dr. Harty, in the *Dublin Medical Essays*, vol. ii. p. 139.

[2] "Cough is evidently a clonic convulsion of the respiratory muscles, and attacks pregnant females very frequently. Sometimes it manifestly depends on the sympathetic influences of the uterus, as in the first months of pregnancy; sometimes it is the result of the impediments which the progressive development of the organ offers to respiration; of the displacement of the diaphragm, and the compression of the lungs which is the result of this: at other times it depends on partial plethora of the lungs, and is accompanied with pain of the head, continual sense of heat and suffocation, &c. In all these cases, there is no mucous or purulent expectoration; this excretion occurs only in catarrhal cough, or in organic diseases of the lungs. The

expectoration, and no evidence of catarrh of the mucous membrane, or disease of the parenchyma of the lungs. The pulse is not quickened, and there is no feverishness. The principal distress arises from the interruption to sleep, and the repeated shocks.

It most frequently subsides after a time, spontaneously; but it may continue the entire period of gestation, and terminate with the delivery. In some cases it may even increase for a time after delivery. (Imbert.[1])

The cough which occurs at the latter period of pregnancy is chiefly owing to a mechanical cause, the same which gives rise to dyspnœa—the pressure of the enlarged uterus upwards on the diaphragm, and backwards on the aorta, by occasioning a sense of tightness, and a slight arrest of the circulation from the superior parts of the body, produces irritation in the lungs, and a sense of uneasiness, to relieve which is the object of the cough. (Capuron,[2] Blundell.[3])

The distress at this time is greater than at any earlier period, and also the probability of serious consequences. The repeated shocks gradually loosen, and ultimately rupture the connection of the placenta with the uterus, and so bring on premature labour, and the child is lost. After delivery the cough ceases, as the cause is removed. (Meigs.[4])

symptoms are always very inconvenient, and this inconvenience, says an ancient accoucheur (Peu), may degenerate into something worse, and becomes so much the more dangerous, as it induces a long series of affections, capable of causing the death of the mother and child. The same author says that the epidemic cough of 1675 so powerfully affected pregnant females, that most of those who were attacked by it died."—*Essay on Convulsions*, p. 67. Extracted from an excellent translation by Mr. Bryden, of Manchester, which, I trust, for the credit of the translator, and the benefit of the profession, will shortly be published.

"When it appears early, it may be ascribed either to that general irritation arising from the condition of the uterine system, or to derangement of the digestive organs. In the latter months, cough must be attributed to pulmonary congestion, produced partly by the enlarged womb encroaching on the thorax, and partly also by the same organ, in consequence of its pressure on the aorta preventing the free circulation of blood towards the lower extremities, whence plenitude of the upper parts of the body must result." "Cough may also have its origin in irritation of the lungs, or mucous membrane of the air passages."—*Campbell's Midwifery*, p. 508.

[1] Mal. des Femmes, vol. i. p. 405.

[2] Mal. des Femmes, p. 436.

[3] "With cough our patient may be affected during pregnancy; and here I don't mean the ordinary catarrh, which cures itself, and passes off in the course of two or three days; but I mean severe coughs, accompanied with great afflux of blood to the head, and attended with a great deal of pain."—*Obstetricy*, p. 199.

[4] "I have frequently met with coughs in the latter weeks of pregnancy, which proved rebellious against all treatment, until the delivery of the patient, after which they yielded to the common means of cure: the pressure of the womb on the abdominal vessels being removed, the pulmonary irritations previously sustained and enforced thereby, proved no longer indomitable."—*Dr. Meigs, Philadelphia, Practice of Midwifery*, p. 110.

There is a third species of cough, not however peculiar to pregnancy, but which not unfrequently occurs at this time, either in consequence of catarrh, or pulmonary congestion, and which is attended with pain in the chest, quickness of pulse, and some fever. There is more or less expectoration, headache, loss of appetite and sleep, exhaustion, &c. and the effects may be very mischievous. The stethoscope will indicate the presence of congestion or bronchitis. It is most frequent in women of a plethoric habit. (Capuron.)

Spasmodic pains in the muscles of the chest and abdomen are common to all the varieties; and in all, the cough is much increased by flatulence and dyspepsia.

It would be very desirable to have the results of more extended stethoscopic investigations in these cases. As far as my experience goes, in the two first there is nothing very peculiar. The respirations are distinct, but rather shorter than usual.

Diagnosis.—The stethoscope will enable us to detect any organic disease, as pneumonia, phthisis, &c.; and if nothing peculiar be found, the disorder must be considered as one of the two varieties first described.

Prognosis.—The majority of authors agree in considering these attacks as serious. The loss of rest, headache, and pains, injure the health of the mother, and when the cough is violent and frequent, there is great probability of miscarriage, or premature labour. (Capuron, &c.[1])

Treatment.—On account of the danger of abortion, it is desirable to relieve the disease as speedily as possible. With the nervous cough of early pregnancy, antispasmodics may be tried. Very often narcotics are useful, especially if with them mild expectorants be combined. In some few cases it may be advisable to bleed; in general, counter-irritation is more successful. The bowels should be kept free.

During the latter months, bleeding is more requisite for the purpose of relieving the circulation, but it should not be carried to any great extent. Small doses of opium, or Dover's powder, or paregoric elixir, will be useful.

We must be prepared however in all these cases for failure, or only partial success; but if we can carry our patient to the full time, we need have no fears of the cough subsequently disappearing.

The third variety I have described requires antiphlogistic measures; venesection, small doses of tartar emetic or calomel, with ipecacuanha and blisters, until the local disease (indicated by the stethoscope) be overcome.

[1] "In general the cough which occurs during pregnancy is unfavourable, whatever be its cause. The shocks which it gives to the system are dangerous in proportion to their frequency. They may interrupt sleep, cause general irritation, even fever, cerebral congestion, hemorrhages, &c. It is easily conceived, also, that the patient runs a risk of abortion from the disturbance communicated to the uterus by the agitation of the diaphragm and abdominal muscles—a disturbance which almost always ends in the rupture of the connection between the placenta and uterus."—*Capuron, Mal. des Femmes*, p. 437.

CHAPTER III.

HEMOPTYSIS, OR SPITTING OF BLOOD. *Hémoptyse chez les Femmes enceintes*, Fr.

This formidable disorder is fortunately very rare, though it does sometimes occur both in the earlier and latter months of pregnancy.

Spitting of blood sometimes happens from the rupture of a small vessel at the back part of the mouth or nares; but this is of little consequence, and may be easily distinguished from the blood derived from the lungs. (Campbell.[1])

Women of sanguine temperament are the most obnoxious to hemoptysis.

The attack may be simple, consisting of a secretion of blood from the mucous membrane of the bronchi,[2] and occurring more frequently at the commencement of pregnancy, owing probably to the sudden suppression of menstruation, as I observed when speaking of hematemesis.

Or the blood may be derived from the rupture of a small arterial branch distributed to the mucous membrane, in consequence of violent coughing or pulmonary congestion.[3] In other cases the blood is poured into the parenchyma or cells of the lungs, constituting pulmonary apoplexy.

Lastly, it may depend upon organic disease of the lungs, as phthisis, which often runs its course quietly and unnoticed during pregnancy, unless such a symptom as the present occurs.

Symptoms.—The accompanying symptoms or effects will depend a good deal upon the extent to which the blood is effused. The patient will complain of tickling of the fauces or larynx, sense of heat, and constriction about the chest, and some dyspnœa and

[1] "When blood proceeds from the posterior nares, it will cease when the head is inclined on the chest, or it will flow from the nostrils; when from the fauces, this can be determined by inspection. Blood flowing from the air passages, or lungs, is invariably brought up by hawking, or coughing, and is preceded by dyspnœa, pain in the chest, tickling sensation about the fauces, with acceleration of the pulse, and flushed cheeks."—*Midwifery*, p. 509.

[2] "Certain spittings of blood take place without effect, and without fever, and seem to be an exudation from the pulmonary mucous membrane."—*Imbert, Mal. des Femmes*, vol. i. p. 406.

[3] "As to the occasional causes, they arise from pregnancy, during which the gravid uterus is developed in the abdomen, and stretches upwards towards the thorax. Hence results an impediment to the circulation in the abdomen, unequal distribution of blood, determination towards the thorax; engorgement and irritation of the lungs, cough more or less obstinate, and the rupture of some small branches of the pulmonary or bronchial vessels; in a word, hemorrhage and expectoration of blood."—*Capuron, Mal. des Femmes*, p. 440.

cough, with the bloody expectoration in the simpler cases. There may be weakness, exhaustion, even fainting, if the loss be great.

The stethoscopic phenomena will indicate the presence of fluid in the bronchial tubes.

When organic disease is present, the stethoscope will render an accurate account of the mischief. We may discover the signs of pulmonary apoplexy, of phthisis, &c.[1]

In many of these cases the spinal column is crooked, and the chest malformed. (Capuron.)

Diagnosis.—The absence of the pathognomonic signs of pulmonary disease, will at once point out the sympathetic or mechanical origin of the cough; or their presence will show that the attack is not peculiar to pregnancy.

Prognosis.—There is more danger from the causes and consequences of the simpler cases, than from the actual loss of blood, which is seldom great. When organic disease is present, its character and progress will determine our prognosis.

Treatment.—The first effort of the practitioner, must be if possible to remove the cause.[2] If it arise from a plethoric condition, or from local congestion, venesection must be performed to an extent regulated by the condition of the patient, unless the hemorrhage have been profuse, in which case it will be wiser to try the effect of opiates, acetate of lead, acids, digitalis, &c. &c.

When the attack has somewhat subsided, counter-irritation will be very serviceable, and may be kept up for some time.

Hemoptysis from the presence of organic disease, will require special treatment, according to the rules laid down for the management of the different diseases.

With regard to preventive measures, M. Gardien has pointed out the most effectual: "Cette hemoptysie des femmes grosses est si dangereuse, qu'il est prudent de conseiller à celles qui crachent le sang abondamment, de ne plus devenir mères par la sûite."[3]

[1] I must apologise for so often referring the reader to other works for signs and symptoms of disease; but I do not feel warranted in trespassing upon subjects which do not strictly belong to the task I have undertaken, especially when I can add nothing to the labours of Laennec, Andral, Louis, Stokes, Williams, &c. on this subject.

[2] "The practitioner has always two objects in view in the treatment: *first*, to diminish pulmonary congestion; and *secondly*, to subdue local irritation. Sometimes the hemorrhage is so profuse as to require the use of remedies to restrain it, which constitutes a *third* indication."—*Campbell's Midwifery*, p. 509.

[3] Traité d'Accouch. vol. ii. p. 87.

DISORDERS OF THE NERVOUS SYSTEM AND SENSES.

CHAPTER I.

INSOMNIA OR SLEEPLESSNESS. *Insomnie. Agrypnie. Defaut de sommeil*, Fr. *Schaflosigkeit*, G.

There is scarcely a more distressing complaint to which pregnant women are subject, than sleeplessness.[1] It is not infrequent, and it appears chiefly to affect females of a delicate constitution, or of nervous and hysterical habits. It may occur at an early period of pregnancy, though it is more common during the latter months, and it may persist for a considerable time.

Cause.—By some authors it has been attributed to general or local plethora; but though the feverishness induced by the former may occasion loss of sleep, the affection is of a different character altogether. The sleeplessness of pregnant women appears to be a purely nervous affection,[2] excited by various causes, such as a heated bed-room,[3] too little exercise, excessive motion of the child, uneasy sensations in the uterus, or sometimes apparently without any cause at all.

Symptoms.—If the affection be long-continued, the patient will suffer very severely.[4] She becomes restless, feverish, agitated,

[1] "Of all disorders, the most distressing is want of sleep. The patient becomes exhausted, all the functions are disturbed, and sometimes the consequences are serious. Bartholinus mentions a woman three months pregnant, who continued forty-five days without sleep. She was seized with paralysis of the lower extremities, and with insanity."—*Imbert, Mal. des Femmes*, vol. i. p. 443.

[2] "The sleeplessness of pregnant women is often a species of nervousness, and is the most difficult to relieve when arising from this cause. If it be slight, warm pediluvia, 'lavemens,' and diet, suffice to procure sleep: if more obstinate, hypnotics will be necessary."—*Gardien, Traité d'Accouch.* vol. ii. p. 79.

[3] "Perhaps the confinement of the air of the room, and the heat of the bed, may be the immediate causes of these complaints; but I have generally considered them as arising from the constant and strenuous demand for nourishment, made by the child upon the constitution of the parent; for it is remarkable, that those women who suffer most on this account, though reduced in appearance, bring forth lusty children, and have easy labours."—*Denman's Midwifery*, p. 162.

[4] "Whatever be the cause, the woman who is sleepless during pregnancy is unquiet and fretful; trifles disturb and irritate her; she frets herself until she becomes sick. The brilliant eyes, the dry hot skin, the quick and irre-

peevish, and fanciful. The appetite diminishes, the bowels, and secretions generally, are deranged, the skin is hot and dry, and the pulse quick. She complains of great weakness and misery, and ultimately the mental functions are impaired.

In some cases more serious effects are produced upon the brain, the patient being seized with paralysis or convulsions. (Capuron, Imbert.)

There is a peculiarity as to sleep which sometimes occurs with pregnant women, and which must not be confounded with want of sleep. I allude to those cases where the patient is unable to sleep during the night, but obtains rest during the day, exactly reversing the natural order. If this habit cannot be changed, it must be indulged, as sleep at some period of the twenty-four hours is absolutely necessary.

There is a species of sleep, without benefit, to which I may just refer here, though it does not strictly belong to this section—I mean when the rest is disturbed by frightful dreams; and which may produce equally unpleasant results. It is not very uncommon, though it does not often continue long, nor require medical advice. Some cases however are of more importance. De la Motte relates one, where the patient, pregnant for the first time, and in the ninth month, dreamed that she saw a frightful spectre, which insisted upon lying down beside her; she awoke in a state of great horror, and was seized with labour pains immediately. However, the labour made but slow progress; at the end of thirty-six hours the head was at the lower outlet, but the mother was so exhausted that De la Motte terminated the delivery. The child was still-born, and the mother died two hours afterwards.

Prognosis.—If the insomnia be slight, and of short duration, we need have no fear; but if continued and obstinate, the case may be very serious.[1]

Treatment.—The indication is to calm the nervous irritation, if possible, and very simple means will sometimes succeed. Dr. Denman mentions a draught of cold water just as the patient steps into bed, or wrapping a wet towel round one hand.

Pediluvia at bed-time will occasionally answer the purpose; but they should be avoided if there be any disposition to abortion or premature labour. A laxative is often very useful, by cooling the system. If these means fail, an anodyne must be given, and it is better to begin with the mildest.

gular pulse, the high-coloured or limpid urine, the confined bowels, the sudden and unusual motions of the child, all announce a state of general disturbance."—*Capuron, Mal. des Femmes*, p. 456.

[1] "Generally speaking, the agrypnia of pregnant women is of little consequence, when it is slight and of short duration, as often happens after conception. But this is not so when sleep and rest have entirely disappeared, when the whole system is disturbed, and when this condition is permanent. Such women are threatened with the gravest accidents, such as convulsions, hemorrhage, abortion, &c."—*Capuron, Mal. des Femmes*, p. 456.

In some cases it may be advisable to abstract blood from the arm, in moderate quantity.

All stimulants must be avoided; the patient should take neither tea nor coffee, and the diet generally should be bland, light, and nutritious.

Air and exercise are of great use, if taken without excessive fatigue.

If the patient be very weak, tonics may be necessary; but they must be given with caution, lest they add to the evil instead of removing it.

CHAPTER II.

DESPONDENCY OR HYPOCHONDRIASIS. *Desespoir*, Fr. *Hoffnungslosigkeit. Verzweiflung*, G.

It is not surprising that a degree of low spirits or despondency should attend a first pregnancy, when we consider the uncertainty the patient must feel, both as to the suffering and the result, especially where her friends are so injudicious as to inform her of the various accidents which have occurred within the circle of their acquaintance.[1]

Again, after her first confinement, supposing that to have terminated regularly, any deviation from the ordinary course of gestation in a subsequent pregnancy—for example, sickness lasting the whole day, delay in quickening, &c. &c., will excite fears of something being wrong, and anticipations of serious consequences at the time of parturition, which it is very difficult to remove, as the patient is apt to suppose that we are administering comfort without strict regard to truth.

I have already mentioned that the sympathy of the brain with the womb, and the discomforts of early pregnancy, produce a state of mind peculiarly susceptible to morbid impressions. It may also produce positive despondency, without any special cause, the patient not anticipating any peculiar danger, and there being nothing unusual or alarming in her condition. Still she is unable to keep up her spirits; she becomes melancholy and unhappy, is frequently in

[1] "This solicitude or discomfort may proceed from the mere dread of what they expect to suffer at the time of labour: or from reports inadvertently made, of untoward accidents which have happened to some of their friends or acquaintance, who were in the same predicament with themselves. In some cases, there seem to be strange impressions made on the mind from some affections of the body, not then obvious, but showing themselves at the time of labour, or after delivery."—*Denman's Midwifery*, p. 163.

tears, and sees every thing around and before her through an unfavourable medium.

Should there be any circumstances of a distressing character connected with the patient, this melancholy disposition will be much increased, and its termination probably much more unfortunate. In the eloquent language of my friend Dr. Montgomery—

"How deplorable, then, must be the condition of the mind in a woman, who, led astray by the profligate from virtue's paths of pleasantness and peace, and then abandoned, is compelled to consider her pregnancy as a curse instead of a blessing, and has, in addition to the ordinary troubles of that state, to bear up against the agony of disappointed hopes, of affections misplaced and cruelly misused, to endure the present scorn of society, and the anticipation of a still increasing shame, for which she is to find no 'sweet oblivious antidote' of power to 'pluck from the memory a rooted sorrow,' or to 'raze out the written troubles of the brain!' How often has such a state of mind been followed by convulsions, or ending in insanity, has armed with the weapon of suicide the once gentle hand of her who, to use the words of W. Hunter, 'might have been an affectionate and gentle wife, a virtuous and honoured mother, through a long and happy life; and probably that very reflection raised the last pang of despair which hurried her into eternity.' I have myself seen instances of such miserable results, and one of them very lately."[1]

Many similar examples might be adduced, and amongst the poorer classes I have repeatedly seen the worst consequences follow the desertion of a wife and family by the husband, or even from the death of the husband. Of ten deaths after labour which occurred in four years in the Western Lying-in Hospital, four were connected with circumstances of this deplorable kind.

The attack is often confined to the early months of pregnancy, during which the bodily discomfort is the greatest; as this diminishes, the tone of the mind is restored, and the despondency disappears.[2]

Even where the despondency continues until the period of parturition, we see it disappear as the pains set in and increase, so that the patient who for months has been expecting death, at the moment when she supposes she has to meet it, finds her courage rise, and her fears vanish.

But this is not always the case: in some, the despondency and

[1] Signs of Pregnancy, p. 22.

[2] "I suppose many have noticed a curious fact, connected with the state of mind in pregnant women, when their bodily health is at the same time good, namely, that however depressed or dispirited with gloomy forebodings they may have felt in the early part of their pregnancy, they in general gradually resume their natural cheerfulness as gestation advances; and, a short time before labour actually commences, often feel their spirits rise, and their bodily activity increase to a degree they had not enjoyed for months before."—*Montgomery, Signs of Pregnancy*, p. 19.

dread deepen towards the termination of gestation, until the patient is occupied solely by her fears, to the exclusion of all interest in life.[1] There can be little doubt that in many cases this is owing to a cerebral derangement nearly equivalent to insanity, in which it may end, even before delivery.[2]

The danger, however, is by no means ended, if the patient arrive safely to the commencement of labour. A continuation of these fearful anticipations may both retard the progress of labour, and produce puerperal mania afterwards. A striking instance of this occurred in my own practice. The patient was rather past the middle age, and was pregnant with her first child. Her mother died of uterine hemorrhage, after the birth of her eleventh child, and she had been with several friends whose labours were unfavourable. This produced such an impression on her mind, that from the commencement of pregnancy she had set it down as an indisputable fact, that she should die during her confinement, and accordingly she arranged all her affairs with this view. Nothing that I could say had any influence upon this conviction. For some hours after the commencement of her labour, the pains continued regular and effective, but every hour that passed convinced her of the truth of her prognostications, until at length her mental agitation, as might be expected, diminished both the force and frequency of the uterine contractions, and the labour was not completed until twenty hours from its commencement. The placenta was imme-

[1] "Occasionally, however, the depression assumes a more serious aspect, and the woman is constantly under the influence of a settled and gloomy anticipation of evil, sometimes accompanied with that sort of apathetic indifference which makes her careless of every object that ought naturally to awaken an interest in her feelings; a state which we sometimes observe in fever and other severe disorders, in which it is justly considered a most unfavourable symptom. When this occurs in pregnancy, it will generally be found accompanied by very evident derangements in bodily health; a dull heaviness or aching of the head; a loaded tongue, with bitter taste in the mouth; constant nausea; costiveness, and a foul state of the alvine discharges, with not unfrequently a bilious tinge in the skin, and other symptoms indicating hepatic derangement, together with a quick pulse and a dry hot skin, constitute the group of symptoms likely to be present, and which urgently demand attention for their removal before the time of labour, otherwise serious consequences are to be apprehended. Sometimes this state appears to depend on some peculiar condition of the brain, the nature of which we probably cannot appreciate, and which our treatment will but too often fail to correct. In one strongly marked instance of this kind, which was some time ago under my care, the lady became maniacal on the fifth day after delivery, and continued deranged for many months."—*Montgomery, Signs of Pregnancy*, p. 20.

[2] "Reasoning by analogy, from such considerations as those we have just been engaged in, we would be led to expect as probable, what experience confirms as certain, that, occasionally, the cerebral disturbance during pregnancy, which in most instances only shows itself in unevenness of spirits or irritability of manner or temper, amounts in some to absolute disorder in the intellectual faculties, especially in habits naturally very excitable, or where there is an hereditary predisposition."—*Montgomery, Signs of Pregnancy*, p. 20.

diately expelled, and the principal danger she had feared, was over; but unluckily she remembered her mother's case, and I was startled by her calling out, "Now, doctor, the flooding!" I examined, but found no more discharge than usual; but nothing would satisfy her. Her fears became so acute, that she worked herself up into a frenzy, and became completely delirious, in which state she remained for an hour, and then was restored. She has been confined a second time within these few days, and though she was very fearful, her mind was more tranquil than previously, and in consequence, the labour was perfectly natural, and completed in five hours.

The bodily health, in the worst cases, is more or less deranged; the pulse is quickened, the tongue is loaded, the stomach disturbed; there is nausea, perhaps vomiting; the appetite is diminished or destroyed, the bowels confined or irregular. The patient often complains of heaviness or a dull pain in the head.

In some cases there is a degree of fever present. (Denman.)

Treatment.—In the slighter cases, attention to the bowels, exercise in the open air, cheerful society, and a fair representation of the unfounded nature of her fears, will often suffice to relieve the patient's mind.

But these may all fail in the more aggravated forms, and then it will be necessary to examine carefully as to the state of the brain.

"If the despondency be preceded by excitement, marked by heat of skin and frequency of pulse, or by congestion at the base of the brain, marked by slow pulse and feebleness or languor, venesection will be proper; and in determining this, no attention is to be paid to the paleness of the visage."[1]

In addition, the bowels must be kept free, and the diet regulated.

As to the moral treatment, I have always found that a fair and honest statement concerning the suffering and danger in prospect, has far more effect than an attempt to make light of the case. By admitting her expectations of considerable suffering to be true, we are more likely to gain credit with her when we insist upon the risk being very slight.

CHAPTER III.

CEPHALALGIA—HEADACHE. *Cephalalgie. Mal de Tête. Migraine*, Fr. *Kopfschmerzen*, G.

Next to disturbance of the stomach, headache is probably the most common complaint of pregnant women. It attacks (though with different characteristics) the hysterical and nervous, the robust

[1] Burns's Midwifery, p. 278.

and plethoric. It may be of no consequence, or it may in itself be serious, or the precursor of other grave attacks.

We should naturally anticipate its frequency, for the brain has not only its own sympathy with the gravid uterus, like any other organ, but the nervous system is the centre to which all other irritations converge.

It may occur at any period of pregnancy; in the early months it is generally of a nervous character; at a later period it arises most frequently from plethora.[1] In the former case, Dr. Burns thinks that the spinal marrow is primarily, and the head only secondarily affected.[2] The latter cases have also been attributed to the pressure of the gravid uterus preventing the descent of the blood to the inferior extremities. (Denman, Capuron.)

Causes.—Among the exciting causes of *nervous* headache may be enumerated mental emotion of any kind, fatigue, constipation, &c.: and among those exciting plethoric headache, errors in diet, the use of stimuli in eating or drinking, warm baths, excessive exertion, &c. (Capuron, Gardien.)

Symptoms.—Nervous headache may occupy the entire head, or only the half. ("*Hemicrania.*" "*Megrim.*" "*Migraine.*") In some cases it is still more limited, being seated in the vertex or occipital region, and well defined. ("*Clou hysterique.*") It may be constant, or in paroxysms; a dull aching, or an acute throbbing pain, with or without intolerance of light or sound. I have remarked that those patients who suffer from light are seldom annoyed by sound, and vice versa. There is seldom any increased arterial action; the eye is not suffused, nor the face flushed.

Denman mentions a form of paralysis, which comes on during pregnancy, and disappears after delivery.[3]

When the headache is in consequence of plethora, on the contrary, the pulse is quick, full, and strong, the face flushed, the eyes

[1] "Headache, arising from nervous irritability, is most frequent in early gestation: that connected with plethora, is seldom encountered until a late period. In the early months, generally speaking, uterine irritation runs higher than when pregnancy is farther advanced; and hence the more frequent recurrence of nervous headache. In the latter months, again, the womb, by its circumambient pressure, impedes in some degree the current of blood towards the abdomen and other subjoined parts, whereby plenitude of the superior organs of the body consequently results."—*Campbell's Midwifery*, p. 499.

[2] Midwifery, p. 265.

[3] "The functions of the brain are often disturbed in the time of pregnancy, by which headaches, drowsiness, and vertiginous complaints, are occasioned; and sometimes pregnant women have a true hemiplegia, as well as many other nervous symptoms. . . . . The palsy is always preceded by such symptoms as indicate an uncommon degree of uterine irritation, on which it is reasonable to consider it may depend; more especially as, though relieved, it is never cured during pregnancy, and scarcely ever fails to leave the patient perfectly free within a few months after delivery, as has been proved in a variety of cases."—*Denman's Midwifery*, p. 164.

bright or suffused, the eye-lids heavy and closed, with intolerance of both light and sound. The pain may be dull or acute, commencing over the eye-brow, and extending to the entire head, with but few intervals of ease.[1]

Either variety may arise from constipation; but in addition to their peculiar characteristics, we shall then find symptoms of gastric disturbance—such as loaded tongue, bad taste in the mouth, &c. The headache also will be increased after meals.[2]

Prognosis.—If the headache be purely nervous, there is no danger; but if it arise from congestion, or vascular action in the head, our opinion must be guarded, as it may be of importance in itself, but more so as threatening convulsions if not relieved.

Treatment.—Nervous headaches may usually be relieved by antispasmodic medicines, or diffusible stimuli—such as valerian, hartshorn, &c.

Eau de Cologne applied to the forehead, or a blister behind the ears, is often useful.

A brisk purgative should also be given occasionally.

A much more active treatment will be necessary when there are any symptoms of plethora, or vascular excitement about the head, both for the relief of the pain, and for the purpose of anticipating evil consequences. Blood should be taken from the arm, in quantity according to the strength of the patient and the relief afforded; and this should be repeated, or leeches applied to the temples, if necessary. We are not to rest satisfied that enough has been done until the pain is relieved, and the arterial system reduced to the ordinary standard.

Purgatives should also be administered from time to time.

After a certain amount of good effect has been produced, great benefit will often result from the application of a blister to the nape of the neck.

The state of the stomach must be attended to, and the diet carefully regulated. All stimuli must be avoided, and the food taken in moderate quantity.

Air and exercise are indispensably necessary.

[1] "When the cephalalgia depends upon a plethoric condition, it commences by pain over the eye-brow, extending speedily over the whole head. The patient is in a state of stupor, the eye-lids cannot be raised without difficulty, the eyes appear prominent and brilliant; the face is animated; the pulse full, strong, and sometimes dicrotous; the skin hot and high-coloured."—*Capuron, Mal. des Femmes*, p. 452.

[2] "Derangement of the digestive system is as frequent a cause of headache as plethora. In such cases we find the usual signs of gastric disturbance, as loaded tongue, bad taste in the mouth, imperfect vision, &c. The headache proceeding from this cause is lancinating, with intervals of rest, coming on especially after a meal, or increasing if it was present before."—*Gardien, Traité d'Accouch.* vol. ii. p. 72.

CHAPTER IV.

CONVULSIONS. *Eclampsie. Convulsions*, Fr. *Convulsion der Schwangern*, G.

In order to treat this subject fairly, I must necessarily transcend in some degree the strict limits of this work. It would be useless to describe the convulsions which occur during pregnancy, and omit those during parturition. Again, it would be worse than useless to describe convulsions in pregnant women, in this part of the work, and those which occur after delivery in a subsequent part. I shall therefore group the whole into one article—gaining, I trust, in completeness, what may be wanting in strict order.

I shall use the term convulsion in the sense usually attributed to it by obstetric authors—meaning thereby a convulsive seizure of the entire body and extremities; omitting those partial attacks enumerated by some writers, although they may be of a convulsive or spasmodic nature.

Convulsions may attack pregnant women during any period of gestation, immediately before or during parturition, and after delivery.

The variety of opinions and methods of treatment which have been put forth, seems mainly to have arisen from confounding the different species of convulsion; and in order to avoid this, I shall describe three varieties—the hysteric, the epileptic, and the apoplectic convulsion. (Dewees,[1] Velpeau.)

1. HYSTERIC CONVULSIONS.—This variety is confined to the period of gestation, and is more frequent during the early months than subsequently. (Burns, Davis.[2]) Females of a nervous or hysterical constitution are the most obnoxious to them.

Causes.—Want of sleep, or excessive fatigue, may give rise to hysteric convulsions; or they may be caused by disordered digestion. (Ryan.[3])

[1] "We have therefore, from a conviction that they do not depend upon one and the same cause, divided them into—*first*, epileptic; *second*, apoplectic; and *third*, hysterical; each of which may attack under two distinct conditions of the uterus, and requires, from that circumstance, a difference of management."—*Compendium of Midwifery*, p. 497.

[2] Obstetric Medicine, vol. ii. p. 1024.

[3] "Hysterical convulsions are often troublesome in the early months of pregnancy. They mostly occur in irritable habits, in those disposed to syncope, or who have been subject to pain, want of sleep, or whose bowels are confined. During the fit, the face is pale, countenance not distorted: no foam issues from the mouth: the patient lies as in a faint, and then has convulsive motions, screams or sobs, and the fit is usually terminated by the shedding of tears."—*Ryan's Manual of Midwifery*, p. 434.

Symptoms.—The attack is generally preceded by a sense of tightness about the throat, by sobbing, or repeated attempts at swallowing. The patient then becomes still and motionless, or may roll about from side to side. The hands are frequently pressed upon the breast, or carried to the neck, as though to remove some obstruction. The face is generally though not always pale, and not distorted; no froth issues from the mouth; nor are there the convulsive motions of the lower jaw, by which in epilepsy the tongue is sometimes severely bitten. In many cases the muscles of the back are violently contracted, which Dr. Dewees thinks a pathognomonic symptom.[1] The patient is not insensible, though she cannot express her feelings or wishes.

After this state has continued for a longer or shorter time, the sobbing becomes more violent, or the patient screams and sheds tears, and the fit thus terminates. A great quantity of limpid urine is also discharged.

The paroxysm may be a single occurrence, or return after a time, with the same phenomena.

It does not generally influence the progress of gestation, though I have seen premature labour take place during the paroxysm.

The mother's health may be rendered rather more delicate, but it is not seriously compromised by the disorder.

Diagnosis.—1. *From epileptic convulsions.* The body is but slightly contorted; there is not complete insensibility; there is no frothing at the mouth, nor biting the tongue, nor stertorous breathing, and, after the fit is over, the patient recovers her usual state—the reverse of all which symptoms occurs in epileptic convulsions.

2. *From apoplectic convulsions.* In these the patient loses consciousness and voluntary motion at first, and ultimately all motion ceases. This is not the case in hysteric convulsions; besides which in the latter, the breathing is not stertorous, and the patient soon recovers.

Treatment.—If the pulse be quick (which is not ordinarily the case,) or the head ache, venesection may be practised, or a few leeches be applied to the forehead; but this is rarely necessary. In most cases, antispasmodics, combined with diffusible stimuli (valerian or assafœtida, with ammonia,) will relieve the patient. Volatile alkali, held to the nostrils, is useful; or cold water dashed upon the face.

When the paroxysm is over, a moderate dose of opium may be given; and after a sound sleep, the patient will find herself nearly restored.

[1] "The face is much less convulsed—less vacillation of the eyes, while the large muscles of the body are much more violently agitated; the patient at times is very obstreperous, and the muscles of the posterior part of the body are almost always violently contracted—so much so, that the body shall describe an arch backward. We have considered this last circumstance as strongly marking this species of convulsion."—*Dewees's Compendium of Midwifery*, p. 501.

The stomach must be attended to. Tonics may be given if necessary, and aperient medicine.

2. Epileptic Convulsions.—This variety is by far more frequent than either of the others.

In	1897	cases of labour,	Dr. Bland met with	2 cases of convulsions.
	10,387	"	Dr. Jos. Clarke,	19 "
	2,947	"	Dr. Merriman,	5 "
	640	"	Dr. Granville,	1 "
	398	"	Dr. Cusack,	6 "
	848	"	Dr. Maunsell,	4 "
	16,654	"	Dr. Collins,	30 "
	399	"	Dr. Beatty,	1 "
	1,266	"	Dr. Ashwell,	3 "
	2,510	"	Mr. Mantell,	6 "
	600	"	Dr. Churchill,	2 "
	20,357	"	Mad. Boivin,	19 "
	38,000	"	Mad. Lachappelle,	61 "

Thus, if we omit the reports of Mesdames Boivin and Lachappelle, as I do not know how far the one may include the other, we have 79 cases of convulsion in 38,306 cases of labour; or 1 in about 485.

The proportion in the French reports is rather less than this.

Women of all temperaments may be attacked, but the sanguine are the more liable, especially those with short necks, and of short square forms. (Collins.[1])

Dr. Ramsbotham has stated that "women with large families are equally or perhaps more liable to be assailed." This however is not borne out by numerical investigation; for of 36 cases related by Dr. Merriman, 28 were with first children. Of Dr. Ramsbotham's more than two thirds were with first children; and of Dr. Collins's 30 cases, 29 were with first children.[2]

Causes.—It is exceedingly difficult to state any thing very definite as to the cause of epileptic convulsions. Doubtless they arise from the sympathy of the brain with the irritation of some different

[1] "Puerperal convulsions occur almost invariably in *strong plethoric young women with their first children;* more especially in such as are of a coarse make, with short thick necks."—*Pract. Treat. on Midwifery.* p. 199.

[2] "Thirty cases of convulsions occurred in the Hospital during my Mastership (out of 16,654 cases;) *twenty-nine* were women with their *first* children, and the other single case was a second pregnancy, but in a woman who had suffered a similar attack with her first child. *Fourteen* of the thirty-two children (two of the women having had twins,) were born alive. *Twenty* of the children were males. In *eighteen* of the thirty, the convulsions subsided after delivery; in *ten* the fits occurred both before and after; and in *two* the attack did not come on till after delivery. In *fifteen* of the thirty, the patients were delivered by the natural efforts; in *six*, delivery was effected by the forceps; in *eight*, by the perforator and crotchet; and in *one* the feet presented. *Two* of the children were born putrid."—*Collins, Pract. Treat. on Midwifery*, p. 201.

and often distant organ; it may be the uterus, the stomach, or the bowels. (Locock.[1])

Intemperance in eating or drinking may give rise to it.

Persons previously afflicted with convulsive affections are certainly predisposed to them at this time. Mental emotions and frights[2] occasionally cause convulsions.

In some cases doubtless they are owing to the effort made during the labour pains, by which an accumulation of blood takes place in the head.

Atmospheric influence appears to have some effect in determining the frequency of this disease. (Dugés,[3] Ramsbotham.[4]) Most per-

[1] "The immediate causes of puerperal convulsions are often very obscure. They appear sometimes to depend upon a loaded state of the brain; at other times the brain appears to be influenced by distant irritation, either in the uterus or digestive organs; and again, in some cases, puerperal convulsions are induced apparently by a peculiar irritability of the nervous system. It has been remarked that there has been a greater disposition to puerperal convulsions in those patients who have been in early life subject to convulsive attacks, particularly of an epileptic character; and also in those who have suffered similarly in former labours, and have omitted those measures usually employed as precautions. That the uterine organs are in some way particularly implicated, is evident from the convulsions being of a character which may be said to be peculiar to the state of either pregnancy or parturition." "The immediate attack may be brought on by a loaded or disordered stomach, or by food, however small in quantity, of an indigestible kind. Some suhstances (shell-fish for instance) have been found very frequently to induce convulsions in the puerperal condition, when at other times they may have been taken by the same individual with perfect impunity. A sudden fright, afflicting intelligence, or any unexpected or depressing mental emotion, may excite the paroxysm; hence it has been long remarked, that unmarried women are more particularly likely to be sufferers from convulsions, from the shame and distress under which their children are usually born. The violent straining caused by labour pains, from the disturbance of the frame by the earlier uterine contractions, causing a temporary rush of hlood to the head, will sometimes bring on convulsions."—*Locock, Cycl. of Pract. Med. Art. Puerperal Convulsions.*

[2] "The carriage of a lady, who was going on a party of pleasure, was broken down; she was near the time of her lying-in, and was very much frightened, though she received no apparent injury. When she fell into labour, this was preceded by convulsions, in which she died undelivered."—*Denman's Introd. to Midwifery*, p. 429.

[3] "This disease—the developement of which seems to be sometimes dependent on atmospheric influence, since, otherwise rare, it occurs in a number of cases about the same time—may attack the patient at different periods of pregnancy, during labour and after delivery."—*Art. Eclampsie, Dict. de Med. et de Chir. Prat* vol. vi. p. 541.

[4] "I have repeatedly remarked among the numerous patients of the Royal Maternity Charity, as well as among others to whom I have been accidentally called, that several cases have occurred soon after each other. Whether this fact ought to be attributed to mere chance, or to the agency of some general principle upon the female system, I must leave to others to determine in future; but I am inclined to suspect that it may be ascribed to the latter principle. And here I may be allowed to observe, that I have witnessed the occurrence of several cases during warm weather; at a time when the clouds have been charged with electric fluid; when atmospheric

sons must have remarked how often a number of cases occur about the same time, as though depending upon the same general cause.

There is a curious case on record of convulsion commencing with conception, and recurring every fortnight during gestation.[1]

Symptoms.—The symptoms in epileptic convulsions resemble very closely, if they are not identical with, those of ordinary epilepsy[2]. In the majority of cases there are certain premonitory symptoms. The patient, for some time previous, suffers from pain in the head, giddiness, confusion, ringing noise in the ears, obscure vision, temporary loss of sensation, rigors, nausea, or even vomiting. The face is flushed, and the eyes injected.

Dr. Hamilton, sen., mentions as peculiar, an intense pain in the forehead; and Dr. Denman, a severe pain in the stomach, and these he thinks the worst kind of cases. Osiander has noticed a tumid state of the hands and face preceding the attack.

As the attack approaches, these symptoms are aggravated; the pupils become dilated, the face more injected, the eyes fixed, and the patient loses consciousness.

In some cases, however, there are no precursory symptoms; the patient has no warning until the moment before she becomes insensible. The "aura epileptica" is seldom felt.

During the attack, the face is swollen, of a dark red or violet colour, and distorted by spasmodic contractions; the eyes are agitated, the tongue protruded, and the under jaw repeatedly closed with force, so as to wound the tongue. A quantity of froth is ejected from the mouth, which is generally drawn more to one side of the face than the other.[3]

appearances have threatened a thunder storm, and when perhaps they have ended in one."—*Pract. Obs. in Midwifery*, vol. i. p. 250.

[1] "The wife of a citizen of Ferrara, 26 years of age, of a bilious constitution, and the mother of three children, was attacked with *periodical epilepsy* whenever she conceived, and sustained a paroxysm of that malady once a fortnight during the whole of her gestation; but as soon as she was delivered the disease left her. Its occurrence, therefore, was always to her a sign that she had become pregnant."—*Comm. by Lanzoni, Ephem. Germ.* dec. ii. an. 10, p. 160.

[2] "The convulsions which take place during the first eight months of pregnancy, are derived from an hysteric source; whereas those which present themselves during the last month, and more especially during the latter weeks of gestation, are more allied to those of epilepsy, and are technically called puerperal convulsions, because they are precisely of the same character with those which occur during labour and the puerperal state. So like the convulsions of epilepsy are the phenomena, that the symptoms would seem to be almost absolutely identified; excepting that, in puerperal convulsions, the author has never been able to trace a recollection of the sensation called aura epileptica."—*Davis, Obstetric Medicine*, vol. ii. p. 1024.

[3] "Ordinarily, when the attack approaches, the headache increases, as well as the vertigo and agitation; the intelligence is obscured, the patient expresses astonishment at her state, and soon loses consciousness. The pupils dilate, the conjunctivæ and face become injected: the eyes, widely open, are at first fixed, but afterwards strongly agitated; the limbs are stretched out and become stiff. During the attack, the face is swollen and

The muscles of the body are thrown into violent and irregular action; the limbs are jerked in all directions, and with such force that it is sometimes difficult to keep the patient in bed.

The respiration is at first irregular, and being forced through the closed teeth and the foam at the mouth, has a peculiar hissing sound; it subsequently becomes nearly suspended. The pulse is quick, and at the beginning full and hard, but afterwards small and almost imperceptible. The body participates in the purple colour of the face. The urine and fæces are often passed involuntarily.

This terrible paroxysm, however, is not of very long duration.—after a period, varying from five minutes to half an hour, the convulsive movements become less violent, and gradually subside; the countenance is less distorted, and assumes a more natural and placid appearance, the eyelids close, the respiration becomes more regular, though still sibilant, the circulation is restored, the pulse becomes more perceptible, though still very quick. The patient rests quietly in bed, and the paroxysm has terminated for the time.[1]

During the interval, the patient's condition is very variable. She may partially recover consciousness, so as to recognise persons around her, and to be aware of something extraordinary having happened, without knowing what, and without being able to express herself clearly.

In other cases the return of intelligence (but without recollection) may be complete, until the approach of the next fit, accompanied with great weakness, headache, and confusion. These are the more favourable cases.

Others again remain in a state of total insensibility, almost ap-

of a violet colour; it is deformed by violent contractions, and by spasms, at the same time as the extremities; the mouth is often twisted more to one side than the other; the tongue, which seems swollen, is protruded from the mouth and bitten by the teeth. The respiration, at first irregular, becomes almost totally suspended: the violet colour of the face is propagated to the surface of the body and extremities; the pulse is frequent, full, and hard. The urine and fæces are involuntarily expelled."—*Dugés, Art. Eclampsie, Dict. de Med. et de Chir. Prat.* vol. vi. p. 542.

[1] "The above terrific appearances are not of long duration; and it is some consolation to know that the patient is not conscious of suffering. After the lapse of a minute or two, the irregular movements of the trunk and extremities gradually subside, and are, by and by, suspended altogether; the countenance assumes a more natural and placid aspect, the eyelids close, the respiration becomes more regular, the balance of the vascular circulation is in some degree restored, and a truce (from the foregoing frightful symptoms at least) is for a time obtained, by their spontaneous cessation. But this favourable state is not destined to be of long duration. A repetition of the phenomena, only variable as to the time of return in different cases, again occurs in a similar paroxysm, and probably with increased violence. After this has exhausted itself, an interval of relief once more ensues. Another paroxysm succeeds at about an equal distance of time, which is followed by another truce. Thus do paroxysms and intervals alternate at nearly regular periods, until permanent relief is procured by means of art; or until the powers of the system are worn out by the numerous repetitions."—*Ramsbotham's Observations in Midwifery*, vol. ii. p. 244.

proaching to coma or asphyxia, with sibilant or stertorous breathing, and without muscular motion, or with a restless throwing about of the body and extremities. (Ramsbotham[1])

This calm is however of no very long duration; it may be half an hour, or two hours, but sooner or later the paroxysms return, to be succeeded by an interval which in its turn gives place to a paroxysm. I have known as many as eighteen paroxysms occur in twenty-four hours.

The *termination* of the attack varies in different patients; some remain in a state of half stupor and great exhaustion for hours or days, and gradually recover.

In other cases the patient becomes maniacal, and may remain so for a long time, and ultimately recover. I had a patient who remained in a state of mental derangement for several months before she was restored. (Campbell.[2])

In a few cases, the patient continues comatose, and gradually passes into a state resembling apoplexy, and dies. (Blundell.[3])

I have already mentioned that convulsions may attack the patients either *during pregnancy*, at *the time of parturition*, or *after delivery*.[4]

It will be necessary to say a few words upon its occurrence at each of these periods.

Pregnant women are more especially obnoxious to this disease during the latter two months of gestation, though it may occur at an earlier period, and at irregular intervals. (Blundell.[5]) The nearer

[1] "The symptoms during the intervals of the paroxysms are in different cases extremely variable. There is sometimes a partial return of sensibility, so that the patient recognises the objects around her: yet she has no consciousness or recollection of the scene which has so recently passed. She seems perfectly aware that something extraordinary has happened, yet is unable to describe its nature or tendency. She stares at her attendants with a vacant expression of eye, and asks incoherent questions. At other times the interval is occupied by a state of comatose insensibility, or of apoplectic stertor, with a dilated or contracted pupil. The patient either lies quiet, unsusceptible of external impressions; or her arms and trunk are thrown about in almost incessant motion. But whether there is a partial return of sensibility, or whether a state of coma prevails, a return of the paroxysms may be expected, unless averted by judicious and active means."—*Pract. Obs. in Midwifery*, vol. ii. p. 245.

[2] Midwifery, p. 503.

[3] "It is not always, however, that the recovery is complete. Sometimes the patient lies apoplectic, or in a state analogous; or she is deaf, or blind, or incapable of speaking, or both; or the limbs are benumbed. In fine, it seems as if the sensorium had received some permanent injury, the corresponding parts of the body suffering in consequence."—*Obstetricy*, p. 638.

[4] "Convulsions may occur in the last two months of pregnancy, previous to any indication of labour: they may occur after the establishment of labour, and during its subsequent stages; or when the act of parturition is entirely completed. Under whatever state an attack does take place, it is replete with the utmost danger to the mother, and, previous to labour, to the infant also."—*Ramsbotham, Pract. Obs. in Midwifery*, vol. ii. p. 250.

[5] "To persons prone to cerebral afflux, convulsions may occur in the mid-

the patient is to her confinement, the greater the risk of an attack, on account of the extreme distention of the uterus, (Dewees,[1]) and its increased irritability.

Although the beginning of labour cannot be detected, either by an internal or external examination, at the outset of these attacks, yet during its continuance labour may commence, and run a natural course. In such a case, the fits will be found synchronous with uterine contractions, though not recurring with each.[2]

In many cases, however, the uterus remains perfectly quiescent, and gestation may be carried on for a time longer; it is rare, however, for the full term to be completed.[3] In almost all cases the child is still-born, often putrid; but whether its death preceded the convulsions, or resulted from them, is not easily determined. When the former is the case, may we not attribute the convulsions to the dead child acting in some sort as a foreign body?

The labour runs a natural course generally, and in a fair proportion of cases the mother recovers tolerably well, though there are startling exceptions.[4]

dle or earlier months sometimes, but still more frequently in the end of pregnancy. When convulsions attack a patient in the progress of gestation, she may have a single fit only, or several: the intervals being usually irregular, and somewhat long—not of a few minutes only, but of hours perhaps, or days."—*Obstetricy*, p. 640.

[1] "When pregnancy is instrumental to the production of convulsions, it is almost always at that period when the uterine fibres are at their greatest stretch, and when the os uteri is disposed to dilate; or where they suffer some peculiar irritation (over which we have no control) from the contents of the uterus, which has the same effect: and such convulsions are almost always of the epileptic species."—*Compendium of Midwifery*, p. 498.

[2] "At the onset of an attack, any marks of approaching labour can rarely be detected, either by a vaginal examination or by external indications. After there have been numerous repetitions of the fits, however, that process is commonly established by natural agency, and sometimes proceeds onwards with considerable celerity. Its advance is then more particularly obvious during the continuance of the paroxysm, which is apt to recur at the commencement of the uterine action. Yet it seldom happens that a convulsive movement is induced at every return of contraction. Several pains will commonly intervene within the space of each interval; during which, the regular moans, expressive of the presence of uterine action, escape the patient; under the violence of the paroxysm, they are overwhelmed in the general disturbance."—*Ramsbotham, Prac. Obser. in Midwifery*, vol. ii. p. 255.

[3] "When the result proves thus satisfactory, the convulsions seldom return; but the woman rarely completes her full period of gestation. The process of labour commonly commences within the space of a few days; sometimes within that of twenty-four hours. Its progress is as regular and natural as if no previous derangement had taken place; but the child is too frequently still-born, and occasionally shows marks of approaching putrefaction."—*Ramsbotham, Pract. Obs. in Midwifery*, vol. ii. p. 259.

[4] "A lady, in the end of her pregnancy, was seized with convulsions; her attendant was sent for, and decided that there were no indications of labour, and that a stay was unnecessary. The midwife left the house, and returning early the following morning, the patient was found dead;—the child, too, the birth of which no one seems to have suspected, lay lifeless beneath the clothes."—*Blundell's Obstetricy*, p. 641, *note*.

When convulsions occur at the commencement of labour, it might naturally be attributed, in some cases at least, to malpresentation of the child, but this is not the case. Malpresentation is observed very rarely in cases of convulsions.[1]

During labour, the return of the paroxysm takes place at the commencement of a labour pain, although not of every pain. There is a greater expression of suffering from the uterine contraction than from the convulsion.[2] The symptoms I have described appear to be more intense, when the attack comes on during labour than during gestation.

The uterine contractions do not appear to be impeded by the fits; the labour generally runs a natural course in the usual time, if not terminated by art; neither is it necessarily fatal to the infant, although there is great danger.

It is remarkable, and not easily explicable, that after the convulsions have ceased, and the labour is over, there is a great tendency to abdominal inflammation, adding fearfully to the mother's risk. Denman, I believe, was the first to point out this fact, which Dr. Collins and others have confirmed.[3]

When the patient is attacked by convulsions *after delivery*, they generally occur from two to four hours after the birth of the child; sometimes later. There can be little hesitation in attributing them to some injury received by the brain or nervous system during labour, though we may not be able to specify the particular mis-

[1] "There was but one case of convulsions during my residence in the Hospital, when the child presented preternaturally; there was not one case with a preternatural presentation during Dr. Clarke's residence; and Dr. Labatt has stated the same fact, in his lectures whilst Master of the Hospital. In these different periods there were 48,379 women delivered; so that from this we may infer, when the presentation is preternatural, there is little cause to dread the attack."—*Collins, Practical Treatise on Midwifery*, p. 200.

[2] "When convulsions attack a woman absolutely in labour, or when this is about to take place, we may observe a pretty regular recurrence of the fits with the probable return of the pains—for though the patient be insensible to external occurrences, she appears to manifest, by her moans and suspension of respiration, her sensibility to uterine contraction. This appears to us to be so manifest and decided, that we think we could tell what is going on at the mouth of the uterus, without an examination per vaginam."—*Dewees, Compendium of Midwifery*, p. 500.

[3] "In almost every case of convulsions that I saw in the early part of my practice, there was evidently, after delivery, a greater or less degree of abdominal inflammation; but by the present practice of liberal bleeding, this has probably been prevented."—*Denman's Introd. to Midwifery*, p. 430.

"I have frequently, even when blood has been taken freely, found a strong tendency to peritoneal inflammation in such cases (after delivery,) and would urge the necessity of guarding against its approach, by the use of tartar emetic in minute doses after delivery, stuping (fomenting) and bleeding freely when there is the least evidence of its presence, and following this up with two grains of calomel and as much hippo (ipecacuan,) given every third hour, until the symptoms disappear."—*Collins, Practical Treatise on Midwifery*, p. 211.

chief.[1] It does not however depend upon the length or difficulty of the labour—they occur as frequently after natural labour. (Ramsbotham.[2])

The loss of blood at the time of delivery does not necessarily prevent the occurrence of the fit, though it adds to the danger, by the debility it occasions.

Dugés considers cases of convulsions after delivery to be more tractable than any others;[3] whilst Dr. Ramsbotham states exactly the contrary.[4] I should say that the cases where the convulsions occur during labour, and continue afterwards, are the least manageable; next to these, the attacks during labour only; then, those after delivery; and lastly, the most favourable are those which occur during gestation.

Prognosis.—On the whole, the mortality is considerable, though probably much less so than formerly. Jacob states that in his time scarcely any survived. Dr. Parr, in his Med. Dictionary, that six or seven out of ten die. Dr. Hunter, that the greater proportion were lost.[5]

Of	4	cases related by Mr. Giffard,	2	mothers were lost.
	8	" Dr. Smellie,	2	"
	14	" Mr. Perfect,	5	"
	2	" Dr. Bland,	0	"

[1] "The occurrence at this time is probably connected with some injury inflicted upon the brain and nervous system during the labour; of what description, it may be difficult to determine. In some cases breach of vascular structure has been detected after death, with extravasation: in others, little alteration has been found in the cerebral appearances."—*Ramsbotham. Prac. Obs. in Midwifery*, vol. ii. p. 268.

[2] Ibid, vol. ii. p. 269.

[3] "One may augur more favourably of an eclampsia when the paroxysms, frequent or not, but short, and with long intervals, permit the perfect restoration of intelligence. There is less to be feared from the attacks after labour than from any others: it is, on the contrary, unfavourable when it comes on before labour, or with the first pains. In these cases we have little to hope for the infant. However short a time the eclampsia lasts, and however natural the labour may be, the fœtus is ordinarily born dead—sometimes even putrefied."—*Dugés, Art. Eclampsie, Dict. de Med. et de Chir. Prat.*

[4] "Upon a general average of cases I think it will be found that convulsions after delivery are more intractable, and prove more frequently fatal, than where they occur previous to or during labour. I have remarked that when they come on under either of the latter states, and *continue after delivery*, whether it may have been effected naturally, or hastened by art, they generally prove destructive to the patient; but that if they be checked by delivery, they seldom return afterwards; a quiet sleep presently succeeds, which is usually the first and most favourable harbinger of subsequent recovery."—*Ramsbotham, Pract. Obs. in Midwifery.*, vol. ii. p. 270.

[5] "In the time of Dr. Hunter, as was reported by that eminent practitioner himself (MS. Lect.), the greater number of women who were attacked by puerperal convulsions died; whereas in the practice of the more competent of his successors of the present day, the recoveries are in the proportion, at least, of nine out of ten cases that are made the subjects of treatment."—*Davis's Obstetric Medicine*, vol. ii. p. 1027.

Of 19	cases related by	Dr. Jon Clarke,	6	mothers were lost.
36	"	Dr. Merriman,	8	"
26	"	Dr. Ramsbotham,	10	"
4	"	Dr. Maunsell,	2	"
30	"	Dr. Collins,	5	"
1	"	Dr. Beatty,	0	"
2	"	Dr. Churchill,	0	"
6	"	Mr. Mantell,	2	"

Thus out of 152 cases, 42 mothers were lost, or more than one fourth.

After recovery from the consequences of the attack, the patient may enjoy her usual health, and her subsequent pregnancies do not appear to be very liable to similar attacks.

Pathology.—In the majority of cases a *post mortem* examination affords but little information. In many instances there is no alteration whatever from the healthy state of the brain. (Bouteilloux,[1] La Chapelle,[2] Cruveilhier,[3] Baudelocque,[4] Ciniselli,[5] Collins, &c.)

Sometimes the vessels of the brain are turgid with blood (Denman,[6] Davis ;) and in other cases there is a quantity of serum effused on the surface and base of the brain, or into the ventricles. (Dugés, Collins, Merriman, Siebold.[7])

The heart is generally flaccid and empty, and the lungs of a pale colour. (Denman.) Some fluid is occasionally found in the pleura or pericardium. (Siebold.)

Traces of inflammation have also been discovered in the peritoneum.

Diagnosis.—From hysteric convulsions. In the attack just described, there is a total loss of consciousness, great muscular action, frothing at the mouth, frequent recurrence of paroxysms, and incomplete restoration or total insensibility during the intervals. In hysteric convulsions, on the contrary, the patient scarcely loses consciousness, exhibits only moderate spasmodic action, has no frothing at the mouth, does not suffer from a frequent recurrence of the fits, and recovers shortly after each. The sobbing, sighing, weeping, and screaming of the hysteric convulsion are also peculiar to it.

2. *From apoplectic convulsions.* In epileptic convulsions, the whole body is thrown into violent spasms, which are repeated, with intervals of quiescence, and often of partial return of sense. The

[1] Thesis, Paris, 1816.
[2] Vol. iii. p. 23.
[3] Distribution des prix à la Maternité, 1831, p. 31.
[4] Thesis, p. 65.
[5] Ann. Univ. di Med. vol. lxix. p. 472.
[6] "In the examination of many women who have died in convulsions, I have never seen an instance of effusion of blood into the brain, though the vessels were extremely turgid ; but it is remarkable that in all the heart was found unusually flaccid, and without a single drop of blood in the auricles or ventricles ; and in several there instantly appeared many large livid spots on the extremities and surface of the body. They all died immediately after the diastole of the heart."—*Midwifery*, p. 426.
[7] Frauenzimmerkrankheiten, vol. ii. p. 198.

breathing is rather sibilant than stertorous, and the muscles preserve their tone even during the intervals;—whereas in apoplectic convulsions, the spasmodic movements occur at the commencement, and are not repeated; sense and sensibility are totally lost, the breathing is stertorous, and the muscles lose all power, so that the arm when raised, and allowed to fall, does so like that of a person recently dead.

Treatment.—At whatever time the attack takes place, the first thing to be done is to take away blood from the arm or temporal artery largely, and in a full stream.[1] If the paroxysms continue, this may be repeated. Denman took forty ounces, and Blundell 70 ounces of blood from a patient under these circumstances.[2] We are not to be deterred from a free use of the lancet, by the absence of immediate relief—the benefit is rather in the ultimate and early recovery of the patient, than in the immediate arrest of the paroxysms.

Another good effect from venesection is the prevention of the abdominal inflammation, to which we have seen that the patient is exposed subsequently.

If there be any objection to repeating the venesection, leeches may be applied; or if the patient be sufficiently quiet, the nape of the neck may be cupped.

A strong purgative (calomel and jalap for example) should next be administered, as from the free evacuation of the bowels great benefit is generally derived; and it may also excite uterine contractions, and hasten the delivery.

The head may then be shaved, and cold lotion or ice applied.

[1] "Three kinds of remedies may be tried; bleeding, epispastics, and antispasmodics; but the first object, when possible, is the termination of labour. The evacuation of the uterus is unquestionably the best means of preventing threatened eclampsia, of dissipating it when it has already commenced, and of preventing a fatal termination when it has already run part of its course."—*Dugès, Art. Eclampsie, Dict. de Med. et de Chir. Prat.*

[2] "I once myself abstracted from a patient seventy ounces of blood in the course of two or three hours, and she did not ultimately suffer from inanition; I was with a medical friend at the time, and tried the smaller bleedings first, but they were ineffectual; this patient recovered." "Venesection of the jugular is peculiarly advantageous, because in this mode of operating you take away blood from the head."—*Blundell's Obstetricy*, pp. 623, 624.

"The quantity likely to suffice for the relief of a case of only threatened convulsions, might amount to between twenty and thirty ounces; but if the convulsions are supposed to have been long established, or to have taken place very suddenly, the practitioner would have to take away perhaps thirty or forty ounces of blood, or *even fifty*, in cases of great intensity of the symptoms. The rule should be, that the pulse must be reduced into a state of mellowness and softness, before the arm is allowed to be tied up. In a few extreme cases, in which the author has from time to time been consulted, he has considered it necessary to order a second bleeding, after the lapse of two or three hours subsequently to the former one. But he has never, that he recollects, recommended for the second bleeding the abstraction of more than fifteen ounces of blood."—*Davis's Obstetric Medicine*, vol. ii. p. 1027.

Denman speaks highly of cold effusion.[1] A warm bath has been recommended, but it would be very difficult to use it in many cases.

After the lapse of some time, the head and nape of the neck may be covered with blistering plaster, as counter-irritation will materially further the restoration of the patient.

When, after copious bleeding and purging, the attack is somewhat subsiding, it has been recommended to give an opiate. Considerable difference of opinion has existed upon this point, owing, I think, to the different parties not specifying with sufficient accuracy the time at which it should be administered, and the cases suitable for it. Under the circumstances I have mentioned, it seems to be the opinion of the highest authorities that it may be of service. (Denman,[2] Davis,[3] Ramsbotham,[4] Collins.[5]) Calomel, given so as

[1] "On a patient in convulsions who had been bled, and for whom many other means had been fruitlessly used, I determined to try the effect of cold water. I sat down by the bed-side, with a large basin before me, and a bunch of feathers. She had a writhing of the body, and other indications of pain, evidently occasioned by the action of the uterus, before the convulsions; and when those came on, I dashed the cold water in her face repeatedly, and prevented the convulsion. The effect was astonishing to the by-standers, and indeed to myself. On the return of the indications of pain, I renewed the use of the cold water, and with equal success; and proceeded in this manner till the patient was delivered, which she was, without any more convulsions, except once when the water was neglected. The child was living about fifteen hours from the time of my being called, and the patient recovered perfectly."—*Denman's Introd. to Midwifery*, p. 435.

[2] "Opium in any convenient form has been given, and sometimes with evident advantage, though I have seen many cases in which it had no power to remove, or even to abate this disease. From the exhibition of large doses, patients have sometimes been brought into a comatose state; but the moment they are roused, the convulsions have returned with their former violence. Nor has more satisfaction been obtained by the various nervous medicines commonly prescribed; even musk, often repeated in very large quantities, *i. e.* ten grains every hour, has done as little service as the rest."—*Introd. to Midwifery*, p. 434.

[3] "Some difference of opinion has existed as to the use of opium in puerperal convulsions. As far as the author feels himself warranted by experience in entertaining a positive opinion on this subject, he feels disposed to recommend the exhibition of a full dose of opium *after* ample bleeding, provided the patient might be in a situation to swallow it; and if not so situated, he would advise the administration of an opiate enema of proportional strength, should it not be required, as a more imperative duty, to exhibit a purgative enema, as has been already adverted to."—*Davis's Obstetric Medicine*, vol. ii. p. 1028.

[4] "The exhibition of opiates or of stimulants, in these alarming cases, is justly exploded. But after free evacuations, the injection of an enema, composed of a proper quantity of opiate, with a solution of assafœtida or oil of turpentine, has in some cases seemed to me to be beneficial."—*Pract. Obs. in Midwifery*, vol. ii. p. 271.

[5] "Many of our best writers have actually condemned the use of opium in convulsions, stating it to be most injurious—some even destructive. Ample experience has convinced me, that it is not only harmless, but *highly beneficial* in those cases where the fits *continue after delivery*. And I should hope the cases adduced will prove satisfactorily that it is also useful under

to affect the constitution, has been found beneficial. Dr. Collins speaks very highly of tartar emetic, in doses sufficient to produce nausea, but not vomiting.[1]

It will be necessary to insert a wedge of leather or wood between the teeth, to prevent injury to the tongue, and also to remove every thing out of the way, by striking against which the patient might hurt herself.

This treatment applies equally to convulsions occurring before, during, or after labour—except that in the latter case the quantity of blood taken must be modified according to the state of the patient.

The next important question is, whether we are to interfere with the progress of gestation or parturition.

I believe there is no dispute that until labour sets in naturally, interference would be injurious; so that in convulsions during gestation, we have nothing to do with the uterus, but must confine ourselves to the treatment of the convulsive disease.

If the attack take place at the commencement of labour, some practitioners have been anxious to hasten the operations of nature by manual dilatation; but this has been abandoned, and very properly, as likely to increase the convulsions, without advancing the progress of the delivery.[2] Belladonna has been applied to the cervix uteri, for the purpose of dilatation, but I should doubt its utility, and dread its poisonous effects.[3] The older writers, with some

many other circumstances, when proper steps had been previously taken. Its combination with tartar emetic, and occasionally with calomel, is most advantageous."—*Pract. Obs. in Midwifery*, p. 227, note.

[1] "In every severe case of convulsions, after having carried into effect the ordinary mode of treatment, as *bleeding freely*, *acting briskly* on the bowels, with calomel and jalap, and at the same time adopting the means usually had recourse to for protecting the patient during a paroxysm, I endeavoured to bring her under the influence of tartar emetic, so as to nauseate effectually, without vomiting. With this view, a tablespoonful of the following mixture was given every half hour:—

℞ Aquæ Pulegii	℥viii.
Tartar Emetici	gr. viii.
Tinct: Opii	gtt. xxx.
Syr: Simpl:	ʒii.

M.

"In some cases the quantity of tartar emetic used was only four grains to an eight-ounce mixture; and in others, the quantity of opium was somewhat increased."—*Pract. Obs. in Midwifery*, p. 212.

[2] "When the os internum began to dilate, I gently assisted during every pain, but being soon convinced that this endeavour brought on, continued, or increased the convulsions, I desisted, and left the work to nature."—*Denman's Introd. to Midwifery*, p. 430.

[3] "It will frequently happen that the os uteri does not dilate during the most violent convulsions—hence Chaussier recommends the application of a pommade, containing belladonna. This preparation consists of two drachms of the extract, softened with an equal quantity of water, and triturated with about an ounce of prepared lard. A piece the size of a small nut is to be introduced into a female syringe, open at the extremity, and conveyed to the os uteri, where it is to be applied by pushing onwards the piston. In cases of unyielding rigidity of the os uteri, Van Swieten advised an incision

modern, have proposed incision of the cervix, but the risk would outbalance any benefit to be derived from so "heroic" a remedy.

But supposing the os uteri to be dilated or dilatable, are we then to proceed to deliver by art? This question has been much debated, and opposite opinions have been advocated. Some advise instant interference, and others no interference at all.[1]

The true plan seems to be to avoid both extremes. We are not necessarily to interfere at this stage of the labour, beyond rupturing the membranes, which sometimes advances the progress of the labour.[2]

Version, or turning, has been often recommended, but from all cases I have seen or collected, it would appear a most hazardous measure. Dr. Ramsbotham advises it,[3] and yet all the three cases in which he practised it proved fatal. Five patients out of seven are generally lost. (Collins.) Dr. Collins is strongly opposed to it.[4] We may therefore conclude that version is not to be attempted.

But when the head has descended into the pelvis, so as to be

to be made through its margin. Dubois, and subsequently Lauverjat, Bodin, and Coutouly, who considered it perfectly justifiable after bloodletting, the warm bath, and other means usually employed, had failed, have had recourse to this operation."—*Blundell's Obstetricy*, p. 950, note.

[1] "These rules have nevertheless led to two methods of practice, offered with sufficient confidence, though diametrically opposite to each other. According to the first (*Mauriceau, &c.*), which has been most generally approved and followed, it was deemed indispensably necessary to deliver the patient by art as expeditiously as possible, to free her from the cause of her impending danger. But according to the second (*Rœderer, &c.*), it being presumed that the convulsions appertained to the labour as symptoms, this, if natural in other respects, was to be suffered to go on without interposition, as if there were no convulsions, while we were to be engaged in using the most efficacious means for preventing their return, or for lessening the effect which might be produced by them."—*Denman's Introd. to Midwifery*, p. 425.

[2] "After bleeding, purging, and refrigeration, you may ask, is there no other remedy to which we can have resort?—Is it not further proper, in *all* cases of puerperal convulsions, to *deliver* the patient? In answer to the latter question, I must say 'No'—for it is I believe an ascertained fact that more women die when they are officiously delivered by force, as it is called, than when they are committed to their own resources. That delivery is a powerful remedy in convulsions, there can be no doubt—after the fœtus is expelled, the convulsions usually cease—but this remedy requires much discretion."—*Blundell's Obstetricy*, p. 648.

[3] "The only expedient upon which any reliance can then be satisfactorily placed, is an early delivery. The mode of effecting that object must depend upon the circumstances of each particular case—which will point out whether the child can be turned, whether the perforation of the head and extraction be advisable, or whether the forceps can be satisfactorily applied." "If it be found that by such practice (repeated venesection) the returns of the paroxysms are fortunately checked, or even mitigated in their violence, there will be sufficient encouragement to refrain from immediate delivery: to await, for a time at least, the result of the previous measures, and eventually, perhaps, to trust the completion of labour to the natural agents."—*Ramsbotham's Prac. Obs. in Midwifery*, vol. ii. pp. 564, 565.

[4] "This operation, under these circumstances, experience has proved to be most ineligible."—*Prac. Obs. in Midwifery*, p. 236.

within reach of the forceps, and there is sufficient space, it will be proper to apply that instrument, inasmuch as delivery, when it can be accomplished without injury, is very desirable.

The attempt must be made during an interval between the paroxysms, and should the introduction of the blades bring on a violent fit, it will be necessary to withdraw them, lest they should be forced through the vaginal or uterine parietes, during the struggles of the patient.

Should the head of the child be so fixed in the pelvis, as to defy all reasonable efforts with the forceps, it may be necessary to use the perforator; but before doing this, the judicious practitioner will consider well the amount of benefit likely to be obtained, and the risk certainly incurred—recollecting that the child may be alive, that the labour may, if left to nature, terminate favourably, and that even if delivered by art, the fits may not necessarily cease. (Denman,[1] Collins.[2]) After the convulsions have ceased, "should the patient become maniacal, as is occasionally the result when the fits have been severe, and have continued for any length of time after delivery, all local distress, as pain in the head, or any symptom that would indicate abdominal complication, should be diligently looked after, and treated accordingly; as by so doing, keeping her fully under the influence of tartar emetic, at the same time acting well

[1] "Whichever of these methods may be thought proper, or absolutely necessary, the rules before given for the management of difficult or preternatural labour will be sufficient guides for our conduct: and before anything else is done, the membranes may be ruptured, and the water discharged—from which alone, in some cases, much benefit has been derived from hastening the delivery. But from a review of what has passed in my own practice, I feel it an indispensable duty to caution the operator against a forwardness to sacrifice the child in cases of convulsions, as many of these, with very unfavourable appearances, have terminated happily and safely, both to the mother and child; and against hurry in any operation, as he would thereby lessen his chance of saving the child, and probably act with disadvantage to the mother."—*Introd. to Midwifery*, p. 438.

[2] "From a perusal of the eight crotchet cases (five of which were fatal,) it will be seen that *necessity* alone induced us to resort to delivery; and the patient's life, under such extreme circumstances, is exposed to extreme danger. It requires considerable practical experience on the part of the physician to select the proper time to interfere, where there are so many circumstances to be taken into consideration. Next to the mother's life, there is the life of the child to be attended to, and here the stethoscope is of incalculable benefit—enabling us to detect the continuance of its life, or its *death*, at an early period after the latter event has taken place; yet even the most satisfactory evidence of the child's death will not warrant the practitioner's hurrying delivery—there being other points of paramount importance to be attended to, viz. the state of the os uteri and soft parts, as the convulsions could hardly fail in every instance to be greatly aggravated, by forcing the child through these parts when undilated and unyielding." "It is of vast importance to effect the delivery of a patient, when suffering under severe convulsions, as speedily as possible; but I should hope a perusal of the cases given will prove, that to combine safety with this truly desirable object, there is need of much patience and caution."—*Collins, Pract. Obs. in Midwifery*, p. 224.

on the bowels, and excluding light from her room, as also all other external irritants, the best results may be expected. It is a great satisfaction to the friends of the patient in such a situation to be assured, that there is little liability to a return of this derangement of mind, as is the case in most other forms of mania."[1]

3. Apoplectic Convulsions.—This variety seldom or never occurs, except towards the termination, or after the conclusion of labour. (Velpeau.[2]) Dr. Burns indeed mentions its occurrence at the commencement of labour;[3] and MM. Morithon[4] and Menard[5] at the sixth month of pregnancy.

Cause.—It is evidently caused by the stress upon the cerebral vessels during the labour pains.

It is very probable that anxiety of mind may prodispose to the attack; at least in one case I saw, this appeared to be the case.

Symptoms.—In many cases, the patient suffers from pain and throbbing in the head for some days previously; but in others, there are no premonitory symptoms.[6]

Generally speaking, during the labour the patient complains of headache; and during the second stage, the face may be observed to be much flushed, and the eyes injected.

Strictly speaking, there is but little convulsion; the body and extremities are agitated or thrown about for a short time, and then the patient lies in a comatose state. There is little or no distortion of the face, and no frothing at the mouth. The muscles become flaccid and powerless; the respiration is stertorous; there is no return of intelligence, and rarely any repetition of the paroxysms, though such cases have been recorded. (Velpeau.)

In almost all cases, the condition of the patient remains unaltered until death; but there are a few cases, answering, I presume, to the congestive apoplexy of Abercrombie and Lallemand, where our timely aid is successful, and the patient recovers sense and motion; and, if proper care be taken, is speedily well.

The pulse is full and slow, and the pupils in some cases dilated, in others contracted, but in all insensible to light.

I do not know that I can give a better illustration of this disease

[1] Pract. Obs. in. Midwifery, p. 238.
[2] Des Convulsions chez les Femmes, p. 71.
[3] Midwifery, p. 527.
[4] Trans. Med. vol. v. p. 162.
[5] Ibid, vol. iv. p. 241.
[6] "A woman in labour was put to bed, and made an effort to change her situation; she died instantly in the act of moving, but she had previously complained of a piercing pain in her head, and loss of sight.

"Another was in such a situation that the child was expected to be born the next pain. She threw herself back, and died instantly.

"Another raised herself in bed to take nourishment, about half an hour after delivery. She fell back, and died immediately. She was opened by the celebrated Dr. Jenner. There was no effusion of blood in the brain, or in any other part, in any of these, but the heart was found flaccid, perhaps somewhat enlarged, and not a drop of blood in either the auricles or ventricles."—*Denman's Introd. to Midwifery*, p. 427.

than by relating the two following cases. For the first I was indebted to my lamented friend, the late Dr. Ashton—it appears to be a simple case of apoplexy from congestion: the second occurred in the practice of a Dispensary to which I was attached. I quote them from a report I published some years ago in the *Medical Gazette*:—"Catherine Costello, æt. 18 years and 9 months, of low stature, and corpulent figure, complained first of severe headache on Wednesday, Jan. 2, 1833. The pain was more violent than any of the kind she had ever experienced. Sickness of the stomach set in nearly at the same time, and she continued throwing up green bilious matter during the entire day; the bowels were confined for four days; the face and extremities were much swelled, which commenced two days before, and continued gradually to increase as the headache became more intense. She wanted about seven weeks to complete the usual term of utero-gestation. I (Dr. Ashton) was sent for in the evening; she was walking about the room, but suffering most acutely; the face was swelled to such a degree as almost to hide the eyes, and her speech was somewhat thick. The motion of the child had not been felt all day. As she had an objection to bleeding, I omitted it for the present, and directed some opening medicine to relieve the bowels; and having given the requisite directions, I left her; but in a few hours her husband came for me in all haste, requesting my immediate attendance, as she had had a fit, and appeared to be in a dying state. Upon further enquiry, I was told that the pain in the head had got much worse —when suddenly the eyes became fixed, the face distorted, convulsive emotions ensued, and ended with stertor, which must have been of short continuance, as no such symptoms existed when I visited her a short time afterwards, *although she was unconscious of any thing that happened until after venesection*, which I immediately performed to the extent of eighteen or nineteen ounces, from which she experienced almost instantaneous relief. The heat of skin was much greater than natural; thirst extremely urgent; pulse pretty frequent, but inclined to hardness; after venesection it became quicker; shortly after, slower and softer, until it gradually came down to the natural standard. From this time all the symptoms subsided, and she was delivered Jan. 5th, and recovered well."

"Mary ——, æt. 30. was attended in her first confinement by a pupil of the Wellesley Dispensary, on Monday, Nov. 20, 1832. The labour was natural, and terminated within the usual period. She complained of severe headache during her labour, and seemed sleepy towards the conclusion. After asking some question of the attendants, she settled to sleep; some irregular motions of the limbs were noticed by those in the room, but nothing further, until her breathing became loud and heavy—when, as they could not rouse her, I was sent for. I found her perfectly insensible; pupils fixed and contracted; breathing stertorous; heat of head but little increased; abdomen distended with flatus: muscles perfectly flaccid;

pulse firm, and tolerably full. The usual remedies were tried, but unsuccessfully, and she died during the night. A *post mortem* examination was permitted, and we found great effusion of blood, filling both ventricles. A quantity of serum also was found at the base of the skull.

"On further enquiry, I learned that she had been the victim of seduction and desertion, and that she had suffered from depression of spirits and severe headaches for some weeks before her confinement."

Pathology.—The brain may be found greatly congested, but without any effusion; but this I believe to be rare.

There may be great effusion of serum, which by its pressure will cause symptoms of apoplexy. (Dugés.)

More frequently blood is poured out into the ventricles, into the substance of the brain, or at its base.

Cases of this kind have been noticed by Denman,[1] Targioni,[2] Marchais,[3] Lachapelle,[4] Leloutre,[5] Schedel.[6] Velpeau.[7]

Diagnosis.—The entire and persistent insensibility—the absence of repeated paroxysms with their accompanying symptoms, will at once enable us to distinguish apoplectic, from epileptic or hysteric convulsions.

It is not easy to distinguish that form which arises from congestion, from that caused by effusion—the chief difference being in the intensity of the symptoms.

Treatment—The most active antiphlogistic measures should be instantly put in requisition; a large quantity of blood should be taken from the arm, jugular vein, or temporal artery, and repeated if necessary. This is the more requisite, as it is from the effect of blood-letting, that we are mainly to look for the distinction between apoplexy from congestion, and apoplexy from effusion. If no relief whatever be afforded, the case may be regarded as nearly hopeless, but if the patient be at all benefited, the head should then be shaved, and ice applied.

After a short time, a large blister may be applied to the head or neck, and a brisk purgative given.

These remedies will generally afford relief in those cases which are susceptible of it, and they may be modified or repeated as circumstances may require.

[1] "The late Mr. Hewson informed me of a case of convulsions, in which, on examination after death, he found an effusion of blood, in a small quantity, on the surface of the brain. In a case of convulsions, in which the patient died in about eight hours after delivery, Dr. Hooper found a coagulum of blood, weighing near four ounces, lying between the dura and pia mater. It is probable that by more careful attention, instances of effusion of blood in cases which proved fatal, might be found to have occurred more frequently than has been presumed."—*Introd. to Midwifery*, p. 147.

[2] Morgagni de Sed. et Causis Morb. epist. 2, sec. 8.

[3] C. Baudelocque, vol. iii. p. 17.

[4] Prat. des Acc. vol. iii. p. 37.

[5] Thèse, 1826, p. 12.

[6] Archiv. Gen. de Med. vol. xvi. p. 497.

[7] Ibid, vol. xvi. p. 494; and Convulsions chez les Femmes, p. 34.

CHAPTER V.

NERVOUS AFFECTIONS OF THE EYES AND EARS. *Nevroses Ophthalmiques ou Acoustiques*, Fr.

Certain nervous affections of the eyes and ears have been observed in females during pregnancy; nor is it surprising, considering the many irritations that are concentrated, as it were, in the brain and nervous system.

The majority of these cases are purely nervous,[1] but in some the disorder appears to be owing to a congested state of the brain or organ of sense. (Capuron.[2]) They sometimes occur immediately after conception; in other cases, not until a more advanced period. (Capuron.[3])

If the *eyes* be affected, the patient may suppose that all the surrounding objects are dancing, or turning round before her, or she may be so dazzled as to be incapable of distinct vision; in other cases, she fancies objects in the air, or flashes of light, &c.; more rarely she sees every thing double; and lastly she may become amaurotic.[4]

[1] "These 'nevroses ophthalmiques' of pregnant women may be attributed either to an extreme mobility of the retina, or to a congested state of its vessels, causing the interception or erroneous direction of the rays of light, and a variety of optical illusions, such as vertigo, where the patient sees every object turning before her eyes; dazzling, which prevents her seeing clearly; 'la berlue,' when she sees different images, as insects, sparks, &c.; 'la diplopie,' when objects appear double or multiple; amaurosis, or complete darkness."—*Capuron, Mal. des Femmes*, p. 447.

[2] Mal. des Femmes, p. 447.

[3] Ibid.

[4] "La nevrose ophthalmique se reconnait aux symptômes suivans, elle est sans rougeur, sans douleurs, sans gonflement des yeux; ce sont des simples eblouissemens, des illusions d'optique qui grossissent, diminuent les objets, changent leurs formes, ou creent d'imaginaires."—*Gardien, Traité d'Accouch.* vol. ii. p. 76.

"Mad. Pivert, æt. 43, in the fifth month of her ninth pregnancy, became the subject of a deep seated pain of the *right* eye, suddenly, and without any known cause. This did not manifest itself by any external sign. The patient experienced no heat in the organ. Examination could discover neither redness nor secretion of tears. There was however a sensation of strong pulsation at the bottom of the orbit, accompanied by acute and frequently repeated lancinating pains, by the appearance of rapidly darting sparks before the eyes, and by errors of vision. Pain of the forehead, and about the root of the nose, together with a sense of weight and oppression at those parts, aggravated the patient's distress. In a short time the rays of light ceased to irritate the retina; the eye became insensible to the contact of the finger, and the patient could intensely stare at the sun without producing any painful excitement: the eye however retained its form and natural transparency. Inability to sleep accompanied this local affection for several weeks. A bleeding at the arm, which moderated the symptoms, was the

There is seldom any pain accompanying these illusions, nor any increased vascularity of the eye, except in those cases which arise from congestion, and they will be easily distinguished from that very circumstance.

The *ears* may be variously affected—the sense of hearing may be more obtuse than usual (*dysæcia*), or it may be impaired in one ear, whilst it is preserved intact in the other. On the other hand, it may be so acute as to be painful. Again, the patient may be disturbed by an incessant tingling, or buzzing, or singing in her ears. Lastly, she may lose the sense of hearing altogether.

Dr. Davis has seen two cases of entire deafness during gestation. "In one case the abolition of the sense of hearing came on suddenly during one of the early months of gestation, and very gradually returned after delivery; whilst in the other it came on by

only curative measure had recourse to. The delivery was happily accomplished. In the course of some days subsequently, the lady found that she could perceive light with the eye which she considered as lost to her; and after some days she could clearly distinguish objects with it. In this state she remained, or rather than otherwise, gradually improved upon it for eighteen months, when she conceived of her tenth child. About the fifth month of her pregnancy, as on the former occasion, she was again seized with similar pains, although much more intensely severe, of the same eye. They were moreover accompanied by a frontal cephalalgia, which assumed a periodical character, commencing every day at 5 P.M., and terminating about 7 or 8 P.M. by a profuse perspiration. There was an aggravation of the symptoms every other day. It was stated by the patient that the left eye had been gradually getting weaker, and that she saw with it only sufficient to guide herself in walking, for some time before it began to suffer much pain; that she had used blisters applied to the nape of the neck and behind the ears, which she could not support, on account of their frequently exciting faintings, by the irritation which attended them, which also equally resulted from the use of ardent spirits. On examining the vision of this lady, it was very perceptible that the pupil of the *right* eye was more dilated than that of the left; that moreover it had no mobility, and that the eye itself was totally insensible to the contact of the finger; that the pupil of the *left* eye had already lost its natural form, and that its movements likewise were less perfect than natural. The headaches already spoken of returned every evening, and terminated in profuse perspiration. The pulse during these paroxysms, instead of being rendered stronger and more accelerated, became actually slower, and more concentrated. The patient was at this time in the sixth month of her pregnancy. The case therefore required that the plan of treatment should be such as might consist with the well-being of the fœtus. Accordingly, emetics, by reason of their tendency to induce abortion, were rejected. The medical attendant thought it more adviseable to depend upon local depletion, by means of leeches applied to the eyelids and to the temples, and upon fumigations of gum-benzoin to the eyes, and a seaton to the nape of the neck. The smoke was received into a funnel, and by it conducted to the eye which was to be submitted to its action. After a month of this treatment it recovered pretty fully its functions, but the *right* eye gave no indications of its possessing any sensibility whatever to the rays of light. It however yet remained very uncertain, whether after delivery, as had taken place after the preceding pregnancy, it might not be in some degree restored. This hope was disappointed. The labour proved a natural one, but the *right* eye retained its then state of insensibility."—*Comm. by Dr. Bezard. Leroux's Journ. de Med.* vol. iii. p. 72. (*Davis.*)

imperceptible degrees in the seventh and eighth months of pregnancy, and it returned suddenly and with painful acuteness on the sixth day after delivery, when the lochia entirely ceased to flow."[1] Imbert[2] mentions the case of a deaf woman who recovered her hearing during pregnancy.

These nervous affections are generally temporary, when they occur at an early period of pregnancy, but are more permanent subsequently, and may continue even after delivery.

The imperfection of vision and of hearing, which occurs at the commencement of fainting, is not to be confounded with this nervous affection.

It is seldom that these disorders are of any consequence, and then only as connected with a more serious cerebral disease.

Diagnosis.—The only important point of diagnosis, is to distinguish between a purely nervous affection, and one originating in congestion or organic disease; and this may generally be done by a careful examination of the organ itself. The concurrence of the disorder with pregnancy will also aid us.

Treatment.—If this affection be purely nervous, very little treatment will be necessary. A small blister may be applied behind the ears, or to the temples, and repeated at intervals. Tonic medicines, in combination with antispasmodics, will be found beneficial.

The bowels should be carefully regulated; as, when disordered, the nervous affection will be increased.

If there be any evidence of congestion, it will be necessary to take away blood from the arm, or by leeches, and give one or two brisk purgatives, instead of the treatment recommended.

We may expect, however, that in many cases our remedies will fail, or at most afford but slight relief; with such patients we must only wait for the effects of time or delivery.

[1] Obstetric Medicine, vol. ii. p. 899.
[2] Mal. des Femmes, vol. i. p. 441.

DISORDER OF THE BREASTS.

CHAPTER I.

MASTODYNIA. *Mastodynie. Douleur des Mammelles.* Fr.

From the intimate sympathy between the uterus and mammæ, the latter change their condition at a very early period of gestation—sometimes, indeed, immediately after conception. (Capuron.) In ordinary cases, about the second month the patient's attention is directed to the breasts, in consequence of a sensation of prickling, tingling, or shooting pain in them, accompanied with increase in size, and a degree of soreness of the nipples. If the breast be grasped, it will be found to have lost its peculiar softness, and to have acquired a firm, glandular consistence; the gland increases as pregnancy advances, until it seems to constitute the entire substance of the breast, the fatty tissue having nearly or altogether disappeared. This disappearance of the softer tissue is often very remarkable. Imbert speaks of a patient of his, whose breasts—large before conception—always decreased during pregnancy, in consequence of it.[1]

In the majority of cases, these changes take place without causing any great distress; but in some the suffering is considerable.

This may partly arise from the fibrous envelope of the mammary gland being unusually firm, and partly from peculiarity of constitution. I have observed it in females who have previously suffered from disease of this organ.

The pain may be either neuralgic, or the result of undue distention, whether the latter arise from the rapid increase in the gland, or from congestion or inflammation.[2]

Females of a nervous temperament are the subjects of the first, and those of a full habit of the second, kind of attack.[3]

[1] Mal. des Femmes, vol. i. p. 347.

[2] "On accuse communèment la plethore produite par la suppression des regles d'être la cause du gonflement des organes mammaires. Mais ce phenomène dépend ordinairement du rapport sympathique qui existe entre eux et l'uterus, puisqu'il se manifeste avant l'epoque où les regles auraient dû paraitre."—*Gardien, Traité d'Accouch.* vol. ii. p. 65.

[3] "In the first place, the nervous or irritable female, as soon as she has conceived, experiences certain sensations in the breasts; sometimes a kind of itching or tingling, with more or less swelling of these organs; at others, a feeling of spasm or constriction, extending towards the axillæ. But in proportion as pregnancy advances, the breasts become more voluminous and

Symptoms.—The patient complains of a pricking, or of acute pain, in one or both breasts, varying in intensity. In most cases it excites no constitutional sympathy; the patient is cool, and the pulse quiet, though the excess of pain may cause sleeplessness and loss of appetite. But in others the pulse becomes quick, the skin hot, with feverishness, and even delirium, when the agony is great. (Capuron.) The pain may be constant, or recur in paroxysms, and even periodically. (Murat.)[1]

When the pain is purely nervous, it may continue a longer or shorter time—the nearer the commencement of gestation the shorter its duration (Capuron)—and then cease without any consequences; but when it occurs in plethoric females, as the result of congestion, it is not unlikely to terminate in abscess. (Capuron.)

In some cases, towards the end of pregnancy, there is a considerable secretion of milky fluid; but this is arrested when the attack assumes an inflammatory character.

Diagnosis.—1. *From mammary pain, the result of suppressed menstruation.* At an early period it may be impossible to establish this distinction; but after some time, the development of the other signs of pregnancy will decide the question.[2]

2. *From phlegmon of the breast.* The nervous pain will be distinguished by the absence of local heat, tenderness, and fever.

Treatment.—Fomentations, or frictions with an anodyne liniment, will frequently afford relief; or a poultice may be applied.

Small does of some narcotic may be given throughout the day, and a full dose at bed-time if the patient do not rest well.

If there be much tension and enlargement, it will be advisable to apply leeches, or to take blood from the arm.

In these cases, small nauseating doses of the tartar emetic will be found useful.

Should the congestion run on to the formation of abscess, leeches in the first instance, and subsequently emollient poultices, will be necessary; and when matter has formed, the abscess must be opened.

hard. Occasionally the patient complains of prickings, tension, or intolerable pain. Secondly, the female of plethoric or sanguine constitution is liable to the same affections, but in a higher degree; we have seen in such mammary pains so acute as to cause agitation, sleeplessness, fever, and delirium. Some have had 'engorgement,' or abscess of the breast."—*Capuron, Mal. des Femmes*, p. 444.

[1] "Murat has given the case of a lady in whom these pains in the breast reappeared every month, lasting two or three days, at which time she was tormented with pains in the back, threatening abortion, and requiring rest in bed."—*Imbert, Mal. des Femmes*, vol. i. p. 346.

[2] "The physician who is consulted will need to pay great attention. He should first examine whether she be really pregnant, or whether the distress may not arise from a suppression of menstruation; then, whether she be of a nervous or sanguine temperament; and lastly, whether she be in the habit of using tight stays, or any article of dress which may compress the breasts."—*Capuron, Mal. des Femmes*, p. 144.

SECTION III.

DISORDERS ARISING FROM MECHANICAL PRESSURE OR DISTENTION.

CHAPTER I.

HERNIA. *Hernie, Descente de l'Intestin, Eventration,* Fr. *Bauchbruch, Darmbruch,* G.

As the uterus increases in size, it gradually but forcibly distends the abdominal parietes. In most cases they yield steadily and equably, so as to avoid all injury; but in other cases there is more resistance, and then some particular part will be over distended, or it may actually give way.

Thus we find, occasionally, that the recti muscles are so far separated as to give the abdomen a sacculated appearance, interfering to a certain extent with their power during labour, and giving the abdomen an irregular appearance subsequent to delivery.

In other cases, some of the fibres of these muscles may give way, and allow of the protrusion of the submuscular tissue, with a portion of intestine. After delivery, this will give rise to a tumour of varying size.

Again, the linea alba may give way from over-distention, and allow a protrusion of intestine, or of the uterus, constituting what the French call an "eventration." The tumour formed is flat and very painful. (Burns,[1] Gardien.)

If the separation of the linea alba be low down, the bladder may protrude. (Capuron, Gardien,[2] Imbert.[3])

[1] "I have seen the linea alba give way, just below the umbilicus, so as to allow a portion of the uterus to project, forming thus a painful tumour of a flattened form, and too tender to admit of pressure. Leeches relieved the pain, probably by their effect on the cellular substance; and when the child was born, the tumour disappeared."—*Midwifery*, p. 277.

[2] Traité d'Accouch. vol. ii. p. 102.

[3] "I have already said that herniæ are frequent during pregnancy. The tension of the abdominal parietes separates the linea alba, and leaves between the recti muscles a space which is occupied but by the peritoneum and skin. Nothing is more frequent than umbilical hernia. Inguinal and crural hernia are less frequent, though not very rare. It is ordinarily the bladder which projects underneath the skin."—*Mal. des Femmes*, vol i. p. 430.

Even if the resistance of the abdominal parietes be less, so that no separation of the parts take place, yet the natural openings—the umbilical, inguinal, and crural rings may be much enlarged, facilitating the escape of a portion of the intestine;[1] and if we add the pressure exercised by the uterus upon the intestines, we shall at least have a sufficient explanation of the frequency of umbilical hernia.

With some persons, this species of hernia occurs with every pregnancy, but at no other time: and when this is the case, they are very easily reduced.[2]

The progressive enlargement of the gravid uterus will sometimes relieve a hernia which existed previous to pregnancy, by pushing before it the intestines; but this can only be the case when the hernia is recent. (Davis.) When it is old, and has formed adhesion, so far from relieving it, pregnancy is very likely to cause strangulation, and very serious consequences.[3] I need not enumerate the

[1] "I have already spoken of a lady, apparently quite healthy, of a sanguine and bilious temperament, with black hair, dark skin, good muscular development, who experienced in her first confinement considerable relaxation of the abdominal parietes, an anteversion, a separation of the linea alba, forming a true eventration—two inguinal and two crural herniæ."—*Imbert*, *Mal. des Femmes*, vol. i. p. 430.

[2] "The author has known several persons who were always the subjects of hernia during pregnancy, but at no other time. The protruded intestine in such cases is usually reduced with considerable facility."—*Davis*, *Obstetric Medicine*, vol. ii. p. 879.

[3] "In general, the herniæ which complicate pregnancy are not serious if they are easily restored. But it is not so when they are ancient, adherent, irreducible, or disposed to strangulation. Such cases require great precaution, and sometimes prompt assistance."—*Capuron*, *Mal. des Femmes*, p. 405.

"J'ai vu, avec M. Geoffroi, medicin, une femme grosse de sept mois, qui fut attaquée de coliques et de vomissemens, d'insommie, et d'un peu de fièvre, sans que sept saignées, des lavemens sans nombre, des potions huileuses et narcotiques, eussent apportés le moindre soulagement. Par l'examen de toutes les parties du ventre, je trouvai au dessus des aines, deux callosités, qui avaient eté occasionnés par une bandage à deux pelotes qu'elle avait portée longtemps; ce que nous annonça une descente d'intestin pincé à l'un des deux cotés. Mais comme la malade n'y sentait aucune douleur plus distincte qu'ailleurs, qu'il n'y avait nulle apparence de tumeur, et qu'il n'etait pas possible de se fixer sur un endroit plutot que sur un autre, pour y faire l'operation, je me determinai à l'accoucher, *par plusieurs bonnes raisons*. En prenant ce parti je pouvais sauver l'enfant et lui procurer le baptême, ce que j'eus bonheur de l'executer. Je mettais en même temps les parties des ventre à l'aise, et je facilitais la reduction de celles qui causaient tout le désordre. Enfin, le relâchement et le vide procuré par les evacuations, qui suivait l'accouchement, me donnaient la liberté de promener les intestins de coté et d'autre avec les deux mains, et de degager, par ces secousses, celui qui etait pincé. Les derniers vues qui je m'etais proposées furent sans effet. La femme mourut deux jours apres son accouchement. A l'ouverture de son corps, nous trouvâmes une tres petite portion de l'ilêon, pincé dans l'anneau du coté droit. La couleur livide de cette partie de l'intestin faisait voir que c'etait là qu'il fallait chercher la cause de tout le desordre."—*Puzos*, *Traité des Accouchemens*, p. 81.

symptoms of strangulation, as they will be found in all surgical treatises.

Causes.—No doubt the facility with which herniæ are formed during pregnancy is attributable to the irregular yielding of the abdominal parietes, or to their laxity, and to the enlarged uterus protruding the intestines.[1]

Mauriceau has pointed out the influence of tight stays, which limit the abdominal cavity, by causing the contents of the chest to press down the liver and diaphragm.

Diagnosis.—In all cases of obstinate constipation and vomiting, it will be absolutely necessary to examine the abdomen and the inguinal and crural regions most carefully; and this manual examination will generally detect any protrusion of intestine. From any other tumour it will be distinguished by its softness, varying size, reducibility, increase upon coughing, &c. &c.

Treatment.—Irregular separation of any part of the abdominal parietes will be relieved (as far as relief is possible) by a bandage round the body, but which must be so managed as not to include between the separated parts thus brought together any portion of the intestine or bladder.

When hernia takes place, it should be reduced if possible immediately, and its return prevented by a bandage.

If it be not reducible, we are recommended to apply a bandage; but in so doing, we must take care not to cause or aid in producing strangulation.

Should strangulation of the intestine take place, we must have recourse to the usual means, and, if necessary, to the operation for strangulated hernia.[2] If, however, the patient should be in actual labour, it may be advisable to hasten the delivery, in order to save the child, and afford a better chance to the mother.

Care must be taken, during labour, to prevent, as far as possible, the further protrusion of the gut; and afterwards the patient must wear a truss or bandage.

[1] "Pendant la grosseuse, la matrice ne peut se distendre et s'elever dans l'abdomen, sans en presser et refouler les viscères pour les forcer de lui ceder l'espace. D'ailleurs la femme, devenue plus lymphatique après la conception, a la fibre plus molle et plus lâche; il y a donc ici deux causes qui se reunissent pour favoriser les hernies. D'une part, les parties contenues dans l'abdomen font effort pour s'elancer hors de leur enceinte: de l'autre, la barriere qui les retient naturellement, leur oppose moins de résistance. De là, déplacements d'intestins et d'épiploon; de la, l'issue de ces organes par les ouvertures inguinales, par dessous les ligamens ileo-pubiens, par l'ombilic, etc., de là, les eventrations plus ou moins considerables. Quelquefois la vessie elle-même, forcée de s'échapper, fait saillie aux environs du pubis, ou s'insinue dans le tissu cellulaire qui entoure le vagin, et descend jusqu'au périnée, dont elle ecarte les fibres."—*Capuron, Mal. des Femmes*, p. 404.

[2] "Mrs. Clamp was delivered of a male child on the morning of the 20th of December. The author was sent for on the 21st, and found her suffering from a strangulated umbilical hernia. The operation was performed by Mr. Travers, about twenty-four hours after the protrusion: the gut was dark coloured, apparently from venous congestion. The bowels were with diffi-

CHAPTER II.

HEMORRHOIDS OR PILES. *Hémorrhöides*, Fr. *Hämorrhoiden*, G.

The term hemorrhoids is used to characterise a number of small vascular tumours which are formed at the termination of the larger intestine.[1]

When situated within the margin of the anus, they are called "internal piles," and when without, "external piles." Again, when there is no discharge from them, they are called "blind piles" ("*hemorrhöides non-fluentes;*") and when the contrary is the case, "open or bleeding piles" ("*hémorrhöides fluentes.*") If accompanied with excoriations, ulcers, &c. they are termed "complicated piles."

They are a source of great suffering to females during pregnancy, and occur very frequently, if not during the first pregnancy, yet in subsequent ones.

Women of a delicate, indolent, or lymphatic habit are very liable to them, especially if the bowels be constipated.

Causes.—As to the proximate cause of piles, there is great difference of opinion,[2] some considering them to be varicose veins; others,

culty affected after the operation, and the patient suffered much from pain in the abdomen. These symptoms yielded to bleeding and purging, and she appeared to be going on well. On the 26th the wound was dressed; some pus was discharged, and the omentum appeared sloughy. On the 28th the discharge was very offensive, and the sloughing of the omentum was considerable. On the 29th a large quantity of feculent matter came away through the wound. A compress of lint, wetted with a solution of sulphate of zinc, was applied, and a large piece of sponge over it, to absorb the discharge, and pressure was made with adhesive plaster. The following day she passed two motions 'per anum,' and very little feculent matter came through the wound. The sloughy omentum was cut away. Nothing material occurred until January 6th, when sickness and constipation took place, and every thing she took passed through the wound. By the 8th the constipation and sickness were removed, and from this time she continued to improve. On the 7th of February the wound was completely closed, and the natural passage restored."—*Case by Mr. Gore, Med. Chir. Trans.*, vol. xii. p. 570.

[1] "They consist in small, painful, and well-defined tumours, of a pale or sometimes purple colour, which are situated around the verge of the anus. Sometimes the whole of the perineum is invested by one large cluster of them; at other times they neither appear on the anus nor perineum, but exist within the rectum. They have been divided into external or internal, according as they are developed without or within the rectum; into open or blind, according as they furnish a discharge or not; and into simple or complicated, according as they may be accompanied by various excoriations or ulcers. This is generally a complaint of the latter months; but when the bowels are neglected, it may also occur in the early stages of pregnancy, more especially in the fourth month."—*Campbell's Midwifery*, p. 514.

[2] "Some writers express their belief that the blood discharged from them comes neither from arteries nor from veins, but from the intermediate capil-

dilated arteries (Chaussier, &c.); a third class, both the one and the the other (Campbell[1]); and a fourth, neither the one nor the other. (Capuron.) The French authorities regard them as spongy tumours, developed during pregnancy, or otherwise, from constitutional causes. (Gardien.[2])

Among the most evident exciting causes, is the pressure of the enlarged uterus, either when it completely fills the pelvis, or at a much later period, as we find that the time when they are most apt to occur is during the fourth and two latter months. (Denman,[3] Davis.[4])

Dr. Burns attributes piles chiefly to "a sluggish state of the intestinal canal, communicating a similar torpor to the hemorrhoidal veins,"[5] and certainly, when there is a large accumulation of fæcal matter, hemorrhoids are more frequent and severe. Drastic purgatives are also accused of causing the disease. It is probable that the unusual amount of blood distributed to the pelvic contents may favour the formation of these tumours, aided by the looseness of the texture in which the vessels of the rectum are imbedded.[6]

Symptoms.—The patient at first experiences an unpleasant sensation of weight and itching at the anus; and an examination discovers these tumours around its margin, if they be external piles. If internal, they will only be detected by their descent when the bowels are evacuated.

lary vessels (*Montegre.*) Laennec and Abernethy espouse the doctrine that piles are the result of the formation of new vessels. Duneau, Le Dran, Recamier, and Delaroque, represent them as composed of cysts, in which the arterial blood is effused. Lastly, Sthal, Alberti, Vesalius, Morgagni, J. L. Petit, and Pinel, regard them as dilated veins, true *varices;* and such was the opinion of Dupuytren."—*Cooper, Surg. Dict., Art. Piles.*

Sir S. Brodie, Carswell, and Andral agree with the latter opinion. Dr. Ribes considers them to be formed of cells filled with blood.

[1] "The nature of piles is not yet settled. Some allege a hemorrhoid to be a dilated vein; others a dilated artery; and, trusting to the evidence of my own senses, I think not only that each of these opinions is correct, but that the extremities of both the veins and arteries of the part affected may be in a state of dilatation at the same time; that of the veins, however, consequent upon that of the arteries."—*Campbell's Midwifery*, p. 514.

[2] "Anatomical examination establishes more surely the distinction (between varicose veins and piles.) On dissection, no inorganic clot is found, but the cellular tissue is infiltrated and reddened with blood, as Cullen and Bosquillon have stated. Dissection proves that there is no dilatation of the veins." "Ledran justly regards them as spongy tumours, whose extirpation is never followed by hemorrhage, as in the case of varicose veins."—*Gardien, Traité d'Accouch.* vol. ii. p. 95.

[3] Midwifery, p. 157.

[4] Obstetric Medicine, vol. i. p. 874.

[5] Midwifery, p. 259.

[6] "The most influential cause of these tumours is the situation of the hemorrhoidal vessels. They interlace with each other in the midst of cellular tissue, more or less abundant, without being supported, as in other situations, by muscles or aponeuroses, which aid so much in the return of the blood towards the heart. Females who are naturally thin and "*seche*," and those who are plethoric or lymphatic, are more subject to the disease than others."—*Capuron, Mal. des Femmes*, p. 421.

Much greater distress is caused when the piles become congested or inflamed, whether they be external or internal. The patient suffers great pain and throbbing in the part, with a sense of weight and bearing down; the pulse may become quickened, the face flushed, the skin hot, &c. There is headache, thirst, and a dry tongue, &c. The pain is greatly aggravated by sitting or walking, and is almost intolerable when the bowels are moved. Tenesmus is generally present, and a glairy or whitish fluid is discharged. In many cases there is a greater or less discharge of blood, which affords some relief.[1]

The excessive irritation may cause spasmodic contraction of the sphincter, and even of the rectum, adding greatly to the distress.[2]

If the piles be internal, they will be forced down during the efforts at stool, and should they not be carefully returned, they will be caught by the sphincter, and retained and strangulated. This state is one of extreme anguish, and if not relieved, gangrene of the tumour may ensue, and even the death of the patient.

If the inflammation be not subdued, the tumours may ulcerate, and prove extremely troublesome, on account of the irritation and loss of blood.

The severity of the attack may be subdued, but the disease is rarely curable during pregnancy, and even after delivery it is very apt to recur.[3]

When the disease becomes chronic, the patient is very liable to derangements of the stomach and bowels.

The consequences of a very severe attack are, however, sometimes much more serious; the ulceration may persist in spite of treatment, or become fistulous or cancerous. The loss of blood

[1] "If the piles are internal, they cause a sense of weight at the rectum, and a frequent desire to go to stool, with tenesmus and fruitless efforts, expulsion of glairy, whitish, and sometimes sanguinolent fluid; from this cause also proceeds prolapse of the anus, and strangulation of the gut, if not returned in time; inflammation, suppuration, ulceration, and even gangrene of the excluded piles; in a word, the death of the female, if the inflammation be propagated to the abdomen." "Add to these the difficulty of sitting down and walking, swelling of the inferior extremities, flatulence of the intestines, indigestion, dyspnœa, heat in the palms of the hands and soles of the feet, lassitude and uneasiness, insomnia, headache, and fever, and we shall have completed the picture of the torture which piles may cause during pregnancy."—*Capuron, Mal. des Femmes*, p. 422.

[2] "There is sometimes a spasmodic contraction of the rectum, accompanied with acute pain. These spasms so contract the sphincter in certain cases, that it is impossible to administer enemata, and they are so painful that the patient is deprived of sleep. The consequence may be abortion."—*Gardien, Traité d'Accouch.* vol. ii. p. 97.

[3] "When piles are produced by the pressure of the gravid uterus, no cure can be expected till after delivery, one generally then following spontaneously. Women, however, who have borne many children are liable to piles ever afterwards—the veins, which have been repeatedly kept in a state of dilatation, not returning afterwards to their proper size."—*Cooper's Surg. Dict., Art. Piles.*

may be sufficient to exhaust the patient, and to destroy the fœtus, or abortion may be caused by the violent straining.[1]

These attacks, I have said, are most frequent about the middle and end of pregnancy, but they may occur at any period. Some women are attacked with them immediately after delivery, owing probably to the pressure exercised during labour. (Gardien.)

In some cases they recur periodically, as though vicarious of the menses. (Imbert.)

Treatment.—Whether the piles be external or internal, the first thing to be done is to free the bowels effectually by some mild medicine, after which an anodyne enema may be given, and leeches applied to the piles, or around the anus.[2] This will relieve the throbbing pain, and procure some hours' rest for the patient. The leeches may be repeated if necessary; and to encourage the bleeding, the patient may sit over hot water.

Injections of warm water or gruel may be used subsequently.

The diet must be bland, and all stimulants avoided. If the fever be considerable, it may be necessary to abstract blood from the arm. (Mauriceau, Imbert.)

When the piles are external, great relief is sometimes afforded by warm anodyne lotions. (Ashwell); or by the the ung. plumbi.

If the internal piles have been forced down and strangulated, we must return them immediately, and then have recourse to laxatives and leeches; if it be impossible to reduce them, on account of the contraction of the sphincter, the tumours must be scarified to prevent gangrene.

Preparations of sulphur, alone or in combination with cream of tartar,[3] or electuary of senna, are found very useful.

[1] "The consequences of piles are serious in proportion to their duration, their volume, and their complications. They have been known to degenerate into incurable fistulous or cancerous ulcers. The tenesmus, and the violent fruitless efforts to evacuate the rectum, may also cause abortion. In general, they do not interfere with pregnancy when they discharge blood, provided it be not in great quantity; otherwise they may exhaust the female, and cause the death of the infant."—*Capuron, Mal. des Femmes*, p. 424.

[2] "Hemorrhoids are occasionally requiring treatment; and gentle aperients, or some of the *preparations of sulphur*, are productive of good. If they are very numerous, and much tumefied, *leeches* may be employed; but pressure on each individual pile, till its cavity be emptied of the blood it contains, will impart much relief. *A pint of the decoction of poppies*, with a *dram of the liquor plumbi superacet*, is very useful as a warm fomentation, to allay irritation after a difficult and confined motion. The injection of a few ounces of warm olive oil into the rectum *once* or *twice* a day, has often relieved the pain and heat about the anus."—*Ashwell on Parturition*, p. 197.

[3] "℞. Sulphur: præcipit: ℥vi.
Potas: supertart: ℥ii.
Confect: Rosæ Caninæ ℥i.
Syr: Tolutani q: s: ut ft. Electuar:
de quo sumatur quantitas nucis moschatæ bis vel ter quotidie."

Waller's Note in Denman's Midwifery, p. 158.

When the inflammation has subsided, we may have recourse to astringent applications with benefit, such as the ung. gallæ, decoction of oak bark, green tea, &c.

The balsams have also been highly recommended; and recently the pix nigra (in five grain doses) has been stated to have been successfully used, after other remedies had failed.

Should the bleeding be excessive, it may be restrained by pressure; this is easily done when the piles are external; but when internal, we must have recourse to the "*tampon*" of Petit, or some similar contrivance.

Some writers recommend that the inflamed pile (when external) should be opened;[1] others deprecate this operation very strongly. (Capuron.) There will undoubtedly be danger of inflammation, which may interfere with the progress of gestation.

When the piles become chronic, they may be removed by ligature or the knife; but it will scarcely be advisable to attempt this until after delivery.[2]

CHAPTER III.

SPASM OF THE URETERS.

Pregnant females are occasionally subject to accessions of severe pain in the course of the ureters, leading up to the kidney; and this Dr. Burns attributes to spasm of the ureters.

It is probable that it arises from pressure upon these canals, as they pass into the pelvis. The same effect may possibly arise sometimes from a dyspeptic state of the stomach.

The attack is purely local, consisting of severe and sometimes intermitting pain, with distressing strangury, which may cause abortion if not relieved. (Burns.)

Treatment.—The bowels should be well freed by purgatives or enemata, and afterwards a large opiate administered. (Burns.)

Counter-irritation to the loins may occasionally afford relief. The state of the stomach must be attended to, and the diet regulated. Change of position will sometimes relieve the pain, by removing the pressure.

[1] "A very successful, though painful practice, in those piles which appear after delivery, is that of laying them open, and afterwards applying a large warm poultice, by which means they disappear in two or three days. When piles become indolent and insensible to local applications, we have been advised to get rid of them, either by ligature or the knife; and the latter, as it is productive of less irritation, should be preferred: we must be prepared, however, against hemorrhage. Neither operation should if possible be performed in the gravid state, lest premature uterine action result."—*Campbell's Midwifery*, p. 516.

[2] For full information on this point, see Cooper's Surg. Dict., Art. Piles.

CHAPTER IV.

INCONTINENCE OF URINE. *Incontinence de l'Urine*, Fr. *Unwillkührlich Abgang des Urins*, G.

This very distressing complaint may occur at any period of pregnancy, though from different causes.

During the early months it generally arises from a morbid irritability of the neck of the bladder, or of the entire organ, in consequence of its sympathy with the uterus.[1]

The patient is tormented with a constant and painful desire to make water; and if this desire be not instantly gratified, it is discharged involuntarily.

The irritation is sometimes extended to the vulva, and is greatly aggravated by the passage of the urine; the patient suffers intensely, especially in the night, from scalding, itching, and pain of the external parts. (Burns.)

"This state of the bladder is sometimes productive of a slight irritation about the symphysis of the pubis, rendering the articulation less firm, and more easily separated. In such circumstances, when the pubis is tender, blood-letting and rest are the two principal remedies." (Burns.[2])

It may also arise from pressure of the uterus upon the neck of the bladder, giving rise to a partial and temporary paralysis of it.[3]

At a later period the incontinence is owing to the pressure of the gravid uterus on the fundus and body of the bladder, diminishing its capacity, and rendering the evacuation, voluntary or involuntary, of its contents frequent.[4]

[1] "Micturition is very common in the earlier or middle period of gestation—*dysuria*, and even *ischuria*, perhaps, accompanying. This arises from three causes: the first, a certain irritability about the neck of the bladder, derived perhaps from the uterus, producing a tendency to spasm; the second, a bearing of the uterus upon the neck of this organ; the third, a descent of the uterus, though but a little way, under which it brings down the vagina and urethra, which is in connection with the vagina, so as to distort and abstract it."—*Blundell's Obstetricy*, p. 197.

[2] Midwifery, p. 261.

[3] "Incontinence of urine is caused by an atony of the neck of the bladder, which has been squeezed—so to speak—during the early months of pregnancy; or by compression of the fundus by the uterus, at a more advanced period."—*Capuron, Mal. des Femmes*, p. 403.

"When the pressure in question has been of long continuance, it (the incontinence) may be presumed to depend on paralysis of the sphincter vesicæ."—*Campbell's Midwifery*, p. 528.

[4] "Towards the end of pregnancy, women are often troubled with a complaint which is the reverse of the former, namely, an incontinence, or involuntary discharge of the urine. This is most frequent with those who

This pressure, however, appears to have the further effect of inducing a kind of paralysis, so that it may be some time after delivery before its functions are perfectly restored.

The incontinence is much increased, if the patient suffer at the same time from cough—with each succession the urine escapes.

It is hardly necessary to state that the condition of the patient is very distressing; the constant discharge of urine excoriates, more or less, the vulva and upper part of the thighs, and the patient cannot move without pain. The urinous odour is also extremely offensive.

Treatment.—During the early months, our aim must be to soothe the irritation. If this be great, venesection, or leeches to the lower part of the abdomen, may be necessary.[1] In many cases, warm fomentations will be all the local treatment required.

Moderate doses of hyosciamus or opium, with copious mucilaginous drinks, will be found useful. The bowels should be kept free.

When it arises from "atony of the neck of the bladder," Capuron advises "tonic and astringent injections, such as the mineral waters of Barèges, Balarue, Cauterets, &c. or a solution of sulphate of alum."

At a later period, when the complaint arises from pressure, we can do but little. Cold local sponging will in some cases strengthen the retentive powers of the bladder.

The patient in all cases should anticipate the involuntary discharge of urine, by its frequent evacuation.

In order to prevent the distressing excoriation of the vulva, the patient should wear a napkin constantly, and change it frequently.

When excoriation does occur, it may be relieved by warm mucilaginous or gelatinous fomentations, twice or thrice a day, and by the subsequent application of lead lotion, black wash, or absorbent powder.

Gentle aperient medicines or glysters should be occasionally exhibited.

have naturally prominent bellies, and is owing to the too great pressure of the uterus on the body of the bladder."—*Manning, Diseases of Females*, p. 317.

"Incontinence of urine is caused by the pressure of the uterus upon the fundus of the bladder against the symphysis, obliging the patient to pass urine every moment, because of the diminished diameter of the bladder."—*Gardien, Traité des Accouch.* vol. ii. p. 81.

[1] "Early in gestation, and indeed at any period of a *first* pregnancy, venesection, by producing general relaxation, and thereby partially relieving the bladder, must prove beneficial. Doses of the tincture, or of the extract of hyosciamus, or of the sedative solution of opium, must at the same time be given, and the use of liquids limited."—*Campbell's Midwifery*, p. 528.

CHAPTER V.

DYSURIA. ISCHURIA. RETENTION OF URINE. *Dysurie. Retention de l'Urine*, Fr. *Strangurie. Ischuria*, G.

An opposite condition of the bladder to that just described, is not unfrequently observed in pregnant women. The degree may vary —it may only amount to a difficulty in voiding urine, or it may be impossible to evacuate the bladder. It may occur either during the early or later months of pregnancy. (Siebold.)

Causes.—At an early period it may be owing to irritation of the neck of the bladder, giving rise to spasmodic constrictions, or it may be owing to pressure upon the neck of the bladder, when the uterus fills the cavity of the pelvis.[1]

At a later period, it may result from pressure of the lower part of the uterus upon the neck of the bladder, particularly if the belly be pendulous (Gardien); and it has been regarded as a proof that the presentation is natural. (Denman,[2] Siebold.[3])

It may also result from paralysis of the bladder from pressure, or from over distention (Denman), in consequence of the diminished sensibility of the bladder.[4] An attack of hemorrhoids (Capuron), a calculus in the bladder, or a tumour of the urethra, may also give rise to dysuria or retention of urine. (Capuron.)

Displacements of the uterus are all attended, more or less, with disturbance of the functions of this organ. (Gardien.)

Symptoms.—It is scarcely necessary to describe the symptoms. The patient finds the evacuation of the bladder difficult and painful, or altogether impossible. In the latter case, the bladder becomes distended and presses backwards the womb, which may become retroverted[5] in the early months, if the patient make violent efforts to empty the bladder, or suddenly exert her strength in any way.

[1] "Strangury generally occurs in early gestation, and may arise from a variety of causes—as the pressure of the uterus upon the neck of the bladder; spasm of the sphincter vesicæ; from the irritation of piles; diarrhœa and torpor of the bowels. Sometimes it results from calculus, or excrescences in the urethra; and occasionally from the absorption of cantharides."—*Campbell's Midwifery*, p. 528.

[2] "It is some comfort to women to be informed, and I believe the observation is almost universally true, that affections of this kind are never produced, except in those cases in which the presentation of the child is natural."—*Denman's Midwifery*, p. 160.

[3] Frauenzimmerkrankheiten, vol. ii. p. 57.

[4] "The bladder, like the intestines, may become inactive from defective innervation; or it may depend on the pressure of the uterus on the neck of the bladder, or on calculus in this organ."—*Campbell's Midwifery*, p. 529.

[5] For information upon this and other displacements, I must refer the reader to my former volume upon diseases of females.

If relief be not afforded, the pain and tension of the bladder increase to agony, the abdomen becomes tender, and ultimately the parietes of the bladder may give way, and peritonitis result.

Should retention occur at the commencement of labour, or be continued up to that period, the consequences may be very serious. (Gardien.[1]) The bladder may be forced down into the cavity of the pelvis by the descent of the child's head; and if it be not ruptured—which is very likely—it will receive such a serious compression and contusion, as will excite inflammation, sloughing and perforation subsequently.

I have met with more than one such case, in dispensary practice, from the carelessness of midwives.

Diagnosis.—It is of the greatest importance, when retention occurs in the early months, that a vaginal examination should be made immediately, in order that any displacement of the uterus may be detected and remedied as soon as possible.

We may also in this manner detect the presence of calculus in the bladder, or urethral tumours; and so distinguish retention, depending upon organic derangement, from functional incapacity.

Treatment.—Dysuria or strangury, arising from irritation, may require bleeding or leeches, and will be benefited by anodynes, mucilaginous drinks, and warm fomentations. If there be piles, leeches must be applied to them.

Retention arising from diminished sensibility and over distention, requires but little medicine. The patient should regularly void urine at short intervals, and apply cold to the vulva, morning and evening. Soda and uva ursi have been recommended.

If it depend upon compression, little can be done beyond changing the position, so as to avoid pressure anteriorly as much as possible.

Whatever be the cause, if the retention be complete, the catheter must be used, and repeated as frequently as may be necessary.

If the belly be pendulous, a bandage may be applied, so as to raise the uterus, and so diminish the pressure upon the neck of the bladder.

CHAPTER VI.

CRAMPS, IRREGULAR PAINS, ETC. *Crampes. Neuralgies*, Fr.

Cramps, spasms, or irregular pains in different parts of the lower half of the body, are a source of frequent and great annoyance to pregnant females. It does not appear that temperament has any

[1] Traité des Accouch. vol. ii. p. 82.

thing to say to their production. They are more frequent about the fourth or fifth month, and at the latter end of gestation, than at any other time.

Cause.—These pains have generally a mechanical origin, and depend upon the pressure of the gravid uterus upon the nerves, and thus we see why they should be most frequent about the fourth month, when the uterus fills the cavity of the pelvis; or during the ninth, when it is incumbent upon the brim. (Denman, Burns, Capuron, Campbell.[1])

In some cases they are attributable to the distention of muscular fibres by the enlarged uterus, or to the stretching of the ligaments of the uterus (Gardien[2]); and this is said to be the case especially with women who carry twins.

No doubt they may be excited or increased by deranged digestion, constipation, over-fatigue. mental irritation, &c.

Symptoms.—There are various situations in which the cramp or pain is felt, and the effects vary accordingly.

1. *In the abdomen.* The patient may complain of pain or stitches in one side or the other—generally the left, between the false ribs and the crest of the ilium, or along the line of the superior insertion of the abdominal muscles. Again, the inferior insertions may be similarly affected; in both cases it appears to be owing to over-distention, which throws some of the muscular fibres into spasmodic action.[3] The pain may be very severe, effectually pre-

[1] "Spasms of the lower extremities have their origin in the same general condition of the nervous system, to which several affections have already been referred. In most cases they commence in the course of the anterior crural nerve, whence they are suddenly transferred into the calf of one or both legs, and thence into the sole of either foot, to the great annoyance of the patient. The pressure of the uterus upon the brim of the pelvis, torpor of the bowels, over fatigue, and mental irritation, are the most obvious exciting causes. Spasmodic affections are not confined to the sacral extremities. From the time the uterus has ascended over the brim, those sensations may be alternately situated in the hollow between the false ribs and crest of the ilium, in the *venter* ilii, and along the brim towards either crural notch: when the womb is in the pelvis, even between the third and fourth month, frequently a cutting or tearing sensation is complained of in the tract of the obturative nerve."—*Campbell's Midwifery*, p. 504.

[2] Traité d'Accouch. vol. ii. p. 77.

[3] "By the extreme distention of the muscles of the abdomen, these are often the seat of pain during pregnancy, especially at their insertions; and it requires some attention to distinguish this, from the pain which may arise from affections of the symphysis of the ossa pubis. When the weight of the abdomen in pregnant women is very great, and weakly supported by the integuments, it becomes pendulous, and occasions to the patient much pain and difficulty in walking, and many other inconveniences at the time of labour."—*Denman's Midwifery*, p. 167.

"Painful sensations are apt to be produced in these parts, (back, belly, and loins,) either by the general cause already mentioned, namely, the weight and pressure of the uterus, by the too great extension of its ligaments, or by violent straining, and other external injuries. They are seldom dangerous, unless when they proceed from the last of these causes, or are other-

venting the patient's taking exercise. It is influenced by the state of the stomach, more than cramp in any other situation (Burns), and is often combined with heart-burn or water-brash; but is easily distinguished from pain in an internal organ, by its spasmodic character.

I have seen this kind of cramp fix itself about the symphysis pubis, and extend down into the labia pudendi, probably depending upon pressure, congestion, or dragging of the round ligament. (Capuron,[1] Davis.[2])

2. *In the back.* The lumbar muscles are sometimes the seat of cramp; and when it is severe, it greatly impedes the movements of the patient, especially the assumption of the upright position. (Gardien.[3])

Occasionally the distress is extended from the crest of the ilium to the sacrum, affecting the origin of the muscles. It may be the result of distention, or of pressure on the nerves.

In some few cases, I have known the pain limited to the lower part of the sacrum, and to the coccygeal region.

3. *In the inferior extremities.* It is seldom that both legs are affected together, and it generally happens that the pressure is greatest on the leg of that side on which the patient habitually reclines.

The pain may be seated on the anterior and inner side of the thigh, taking the course of the crural nerve:[4] or it may run along the sciatic nerve, down to the calf of the leg, and even to the heel and sole of the foot.

These cramps may depend upon the pressure of the enlarging uterus, whilst it fills the cavity of the pelvis: or upon its downward pressure during the latter months. When the pelvis is sufficiently capacious to allow the head of the fœtus (covered by the cervix

wise extremely violent; but in either of these cases, an abortion may certainly be the consequence."—*Manning, Diseases of Women*, p. 323.

[1] "C'est encore en considerant l'origine et l'insertion des ligamens ronds de la matrice, qu'on explique les douleurs des aines, du pubis et des grandes levres. L'autopsie ou l'ouverture des cadavres prouve que ces productions vasculo-nerveuses s'engorgent, et prennent une apparence charnue au commencement de la grossesse, tandisqu'à une époque plus avancée elles doivent être necessairement tiraillées et comprimées soit par la volume, soit par la poids de la matrice qui s'incline en devant."—*Capuron, Mal. des Femmes*, p. 465.

Also, Gardien, Traité d'Accouch. vol. ii. p. 77.

[2] Obstetric Medicine, vol. i. p. 875.

[3] Traité des Accouch. vol. ii. p. 76.

[4] "La matrice, parvenue à une certaine volume, comprime aussi les ramifications nerveuses que le plexus lombaire envoie aux parties anterieures et internes des cuisses. De là, ces douleurs et ces crampes plus ou moins vives que la femme eprouve des qu'elle veut marcher, lorsqu'elle fait quelque faux pas, et qu'elle reste trop long temps à genoux; de là encore ces chutes plus ou moins frequentes, et cette vacillation dans la marche, qu'on attribue mal à propos à la saillie de l'abdomen et au deplacement du centre de gravité."—*Capuron, Mal. des Femmes*, p. 466.

uteri) to descend into the pelvis, the pressure being great, the pain is unusually severe. (Capuron.[1])

These pains are often very acute, and attended sometimes with muscular contraction.[2] They generally come on suddenly, and often render the patient's footing very insecure. This is particularly the case when they attack during walking; and in fact they, and not the change in the centre of gravity, are the principal cause of the severe falls which happen to pregnant females.

The attack may occur during the night as well as the day, especially soon after lying down.

We sometimes see a minor degree of this affection, when the limb is what is commonly called—asleep: the patient is greatly annoyed by numbness, or a sensation of pricking as of pins or needles; and this may alternate with the cramp.[3] It is evidently owing to the same cause.

It is very rare that any form or degree of cramp is accompanied with much constitutional sympathy, unless indeed the patient should be long deprived of rest.

Treatment.—As this affection depends chiefly upon pressure over which we have very little or no control, it is evident that

[1] "Enfin, chez les femmes dont le bassin est naturellement tres evasé, la matrice descend de bonne heure dans l'excavation du petit bassin, et y comprime les nerfs sacrées d'un coté, rarement de tous les deux à la fois. Telle est la cause des crampes, des engourdissemens, enfin de la neuralgie femoro-poplitée qui tourment les femmes à l'approche du terme de la grossesse, et surtout pendant le travail de l'accouchement."—*Capuron, Mal. des Femmes*, p. 466.

[2] "Tonic contraction of the muscles of the limbs receives the name of cramp, when occurring during pregnancy; it has also (in France) been named *goutte cramp;* it is commonly accompanied with very severe pains. The muscle spontaneously contracts, and remains a longer or a shorter period in this morbid state; the cessation of pain is an instantaneous consequence of relaxation. Pregnancy singularly favours the development of this affection, which sometimes attacks the muscles of the arm, of the hands and fingers; sometimes it manifests itself in the posterior muscles of the leg and thigh. M. Gardien attributes this last mentioned symptom to compression of the sacral nerves, when pregnancy is so far advanced that the head of the fœtus begins to rest upon their origins. (*Traité d'Accouch.* vol. i. p. 260, vol. ii. p. 78.) This may very well explain the occurrence of cramp in the inferior limbs; but when cramp affects the superior extremities, it appears to me to depend essentially on the sympathetic influence of the uterus. These cramps sometimes remain during the whole period of gestation, and are not relieved until after delivery—an evident proof that they are under the influence of that accidental state of the uterus which is induced by pregnancy."—*Bryden's Translation of Miquel*, p. 26.

[3] "No complaint happens more frequently to pregnant women than pain in the hips, with numbness of the inferior extremities. This seems to be occasioned by the outward pressure made by the enlarged uterus upon the ischiatic nerves, and those which pass through the perforations on the aterior part of the sacrum." . . . . . Cramp "is a very pertinacious symptom, and often exceedingly troublesome, especially in the night, but being void of danger, has too little attention paid to it."—*Denman's Midwifery*, p. 161.

the treatment can only be palliative, and must often be unsuccessful.

The condition of the stomach and bowels must be carefully attended to, in all cases.

In very severe cases, blood-letting has been tried, and often with success; but ordinarily it is unnecessary.

An anodyne draught of some kind will be necessary. Locally, we may use some counter-irritation. I have found friction with spirits of turpentine very useful.

Sometimes great benefit will be derived from an opium or belladonna plaster.

But all these remedies will fail, unless we can place the patient at rest in a position which will—in some degree at least—take off the pressure; and if we can do this, very active remedies will be needless.

CHAPTER VII.

VARICOSE VEINS. *Les Varices. Veines Variqueuses*, Fr. *Blutaderknoten. Kindsadern*, G.

A dilatation of the veins, with a consequent thickening of their coats, as a consequence of the arrest of the ascending column of blood, is a very frequent accompaniment of pregnancy—though neither a dangerous nor a very troublesome one.[1] Women of a lax and plethoric habit appear peculiarly obnoxious to it.

Varicose veins vary as to situation. They are perhaps most frequent on the leg, below the knee; but if the cause be repeated, the veins of the thigh are speedily involved.

More rarely, we find the veins of the labia majora, the vagina, and even the os uteri, rendered varicose from the same cause. (Capuron, Gardien.[2])

Cause.—There can be no doubt that the principal, if not the sole cause, is the pressure of the gravid uterus during the latter half of

[1] "Il faut distinguer deux genres de dilatation dans les vaisseaux veineux; l'un n'est qu'une espéce de plenitude; c'est une espéce de pléthore locale, dans laquelle la veine est plus volumineuse qu'elle ne doit l'etre; l'autre est une alteration des tissues; ses parois ont perdus leur elasticité, semblable à la vessie qui, dilatée outre mesure par l'accumulation des urines, perd la force de les expulser. Ces deux varietés de la maladie, expliquent ce qui arrive après l'accouchement chez les femmes qui en sont atteintes. Quand il n'y a qu'une plenitude du systeme veineux, elle disparôit aussitôt que la cause qui l'entretenait est enlevée. Quant aux veritables varices, elles deviennent moins doloureuses, moins tuméfiées, mais elles ne guerissent pas."—*Imbert, Mal. des Femmes*, vol. i. p. 418.

[2] Traité d'Accouch. vol. ii. p. 92.

gestation.[1] It is uncommon for the effect to be produced during a first pregnancy, but it is very frequent afterwards, increasing in amount with each pregnancy.[2]

The first time varicose veins result from this cause, they do not appear till towards the end of gestation; but when once the veins have acquired a certain degree of dilatation, a very slight increase in the bulk of the uterus suffices to distend them. I had a patient, in whom a distended state of the veins of the leg was the first symptom of conception in several pregnancies.

When the womb inclines more to one side of the body than to the other, one limb will be affected, whilst the other retains its natural condition.

A constipated state of the bowels will of course aggravate the disorder, and perhaps may have a share in the production of that form which I have mentioned as seated in the vagina.

Though varicose veins be caused by pregnancy, they are, I need scarcely say, not peculiar to it alone. Ovarian or uterine disease may equally produce them.

Symptoms.—The symptoms are not remarkable: the patient usually complains of stiffness and heaviness of the limb, with difficulty of walking, but there is seldom any pain. When the veins of the vulva or vagina are affected, there is a fulness, weight, and sense of bearing down. An examination of the limb will at once point out the cause of these symptoms, and on making a vaginal examination, we shall find the passage somewhat narrowed, by the swollen, unequal, lining membrane. A similar sensation will be communicated to the finger, when the cervix uteri is affected.

It sometimes, though rarely, happens, that when the distention is very great, the coats of the vessels give way, and blood is effused. This is much more likely to occur with the veins of the cervix uteri, during labour; but I do not know that any unpleasant results have followed.

[1] "We can hence easily understand why, and in what class of females, the inferior extremities appear covered with varices, especially in the course of the femoro-popliteal or saphena vein, and most frequently towards the eighth or ninth month of gestation: also, why it is we meet them in the vagina, vulva, or cervix uteri; why one side only is affected; and why they diminish during the night, by the rest in bed."—*Capuron, Mal. des Femmes*, p. 417.

[2] "This condition of the veins I never met with to any extent, during a first pregnancy; but when it does appear, even in a trivial degree, it gradually increases in severity with every succeeding gestation. Females of a lax, delicate habit of body, are most disposed to it; but it may be developed under a variety of circumstances; and I have had many proofs that such occupations as compel individuals to be much in the erect posture will occasion it. Plethoric females are more liable to varices than those of an opposite habit. Indolence predisposes to it. Relaxation and interruption to the return of the blood, by the common iliac veins, from uterine pressure, are the most obvious causes. This affection is not at all dangerous, except when the coats of the vessels give way."—*Campbell's Midwifery*, p. 513.

After delivery, the veins gradually return to nearly their natural size, unless the patient have had many children in quick succession; in which case, the coats of the veins are so hypertrophied, that the disease becomes permanent, at least for many years.

I have remarked in several patients who suffered from this disease during pregnancy, a great liability to inflammation of a portion of these varicose veins, after delivery.

Treatment.—As the disease results from a mechanical cause, which we cannot remove, it is evident that we cannot hope to cure it, until after delivery. All we can do, is to support the limb, and diminish the venous distention by firm bandaging, which should be applied in the morning, as then the veins are least distended. Firm pressure will command the hemorrhage in most cases, when a rupture of the veins takes place.

Rest in the recumbent posture will also be needful; and if one limb only be affected, the patient should recline on the opposite side.

The bowels must be carefully regulated.

Various methods have been proposed for the radical cure of the disease; but as none of them ought to be practised during pregnancy, they do not require description here.

CHAPTER VIII.

ŒDEMA. ANASARCA. *Œdème*, F. *Wassergeschwulst der Schwangern*, G.

During the latter months of gestation we frequently find patients complaining of a swelling of the lower extremities, increasing towards evening, and occasioning a certain amount of inconvenience.

Females of a leucophlegmatic temperament are the most obnoxious to the disorder, although the robust and plethoric do not always escape.

The extent of the effusion varies much—it may be confined to the feet and legs, or it may involve the thighs, vulva, and hips.

In a few cases, the anasarca is still more general, and we find the upper part of the body, the hands, and the face œdematous.[1]

Causes.—In a large class of cases, the œdema is caused by the

[1] "Although the œdema generally affects the inferior extremities only, it may extend over the whole body: at other times it is limited to the vulva, to the feet or lower part of the leg; or it may ascend the thighs, distend the labia majora, and form a species of ring ('*bourrelet*') around the hips."—*Imbert, Mal. des Femmes*, vol. i. p. 421.

pressure of the gravid uterus simply, or according to M. Imbert, with the addition of an affection of the nervous system.[1]

In a second class it has been said to depend upon an atonic condition of the constitution. (Capuron, Gardien.[2])

In a third class it appears of a more active character, depending perhaps upon plethora, or that affection of the cellular tissue which ends in general effusion. The symptoms of the latter are very different from the former.

The amount of distention in many cases appears to be in proportion to the size of the uterus—thus, in case of twins or triplets, it has frequently been found excessive. (Mauriceau.)

Symptoms.—When the effusion is passive, or the result of pressure, there are none but mechanical symptoms. The limb is swollen, of a semi-transparent, pearly appearance. It feels heavy, and the patient cannot walk as well as usual. The secretion of urine is generally diminished.

These inconveniences are much aggravated if the swelling extend to the thighs; the patient may not be able to approximate them, and may find it as distressing to sit, as to stand or walk.

But little additional distress is occasioned during gestation by the swelling of the labia; but if very large, they may be a serious impediment to the exit of the child.[3]

Change of posture has great effect upon the œdema; in the morning the swelling is but slightly perceptible, but during the day

[1] "We must acknowledge that compression, and obstacles to the course of the blood and lymph, are predisposing causes only; but that for the production of serous effusion a peculiar condition of the constitution is necessary. In fact, the temperament of the patient, the state of her constitution, her mode of life, &c. is not sufficient to produce œdema; we must discern some influence in addition to all these predisposing causes—and that is an affection of the nervous system."—*Imbert, Mal. des Femmes*, vol. i. p. 420.

[2] "The œdema of pregnant women may be of two kinds—one depending upon a state of plethora, the other upon a state of atony. In young plethoric women, œdema is sometimes accompanied with pain, heat, tension, and a slight inflammatory blush upon the skin, in place of the pallor which characterises leuco-phlegmasia from atony."—*Gardien, Traité d'Accouch.* vol ii. p. 90.

[3] "La matrice est souvent si pleine d'humiditez, qu'elle en regorge jusques sur les parties exterieures et principalement sur celles qui luy sont voisines, comme sur les levres de la partie honteuse, qui en deviennent quelquefois si grosses et si tumefiées à certaines femmes, qu'elles ne peuvent pour cet sujet approcher leurs cuisses l'une de l'autre; ce qui les empêche de pouvoir marcher, si ce n'est avec peine et tres grande incommodité. J'ay souvent remarqué que les femmes qui sont grosses de pleusieurs enfans, sont tres sujettes à cette indisposition vers les derniers mois de leur grossesse et qu'elles ont aussi toujours les jambes fort enflées en ce temps. Cette enflure des lèvres de la matrice est pour lors lucide, et presque transparente, ainsi que seroit une hydrocelle, à cause de la quantité de l'eau claire dont elle est pleine; et comme elle pourrait etre bien douleureuse, et incommode à la femme pendant son accouchement: d'autant que par cette boursoufflement les passages en sont rendus plus etroits, il sera besoin d'y remedier auparavant."—*Mauriceau, Mal. des Femmes Grosses*, vol. i. p. 179.

it increases, and towards night the part arrives at the maximum of distention.

After delivery, the effusion disappears immediately, without any unpleasant result.

This is the ordinary course of the disorder; but it may be unpleasantly varied by an attack of erysipelas of the distended skin or phlegmon of the subcutaneous cellular tissue. The former attack may run the usual course, and subside; or the inflammation may extend to the cellular tissue, and end in abscess.[1] The skin covering the abscess may go through the usual process of absorption, to give exit to the matter; or it may become gangrenous.

When the disease depends upon a dropsical diathesis, it is much more general, affecting the superior as well as the inferior parts of the body, and accompanied with heat, tenderness, and tension of the parts.[2] The pulse is quickened, and there is more or less fever. This is a much more serious form of disease, and should be carefully distinguished from the passive variety. Its course is different from the others, inasmuch as it does not necessarily disappear after delivery.[3] It may also be complicated with effusion into the serous cavities, and involve, in consequence, the life of the patient.

Diagnosis.—There are two points of diagnosis: the first is to ascertain that the effusion arises from, or is connected with, pregnancy, and not from disease; and the second is to distinguish between the passive and active forms of œdema. The presence or absence of the signs of pregnancy will solve the first question, and the second will be decided by the presence or absence of constitutional distress.

Prognosis.—As long as the disease is passive, and not excessive, the prognosis is favourable; but it will be modified if erysipelas or phlegmon occur, according to the extent of this complication.

[1] "Dans les cas ou il est peu etendu, il procure une simple pesanteur; mais quand il a atteint les cuisses et la vulve, il gène la marche, et même la station assize, et cause beaucoup de malaises et de douleurs. Quelquefois la peau distendue s'enflamme et se couvre de plaques rouges sur differents points; d'autres fois au lieu de cette inflammation erysipelateuse, c'est le tissu cellulaire qui se phlogose; c'est autour des aines ou vers le periné que ces inflammations se manifestent. J'ai vu deux fois cette complication, qu' Antoine Petit a mentionnée dans son ouvrage; elle se termine ordinairement par la gangréne de la peau qui recouvre le tissu cellulaire malade."—*Imbert, Mal. des Femmes*, vol. i. p. 421.

[2] "Quand cette enflure, qui occupe les jambes et les cuisses, monte aux reins, pour y former ce qu'on nomme le bourrelet, et qu'elle gagne les parties superieures et bouffit le visage et les mains, c'est une vraie hydropisie, surtout si une fievre lente et l'alteration l'accompagnent."—*Puzos, Traité des Accouch.* p. 84.

[3] "The œdema which does not depend upon pregnancy, but upon some constitutional disorder, does not disappear after confinement. In such cases we have seen females become anasarcous and dropsical, and the lochia suppressed. Death is almost inevitable in these cases."—*Capuron, Mal. des Femmes*, p. 430.

When the dropsy is general and acute, the prognosis is always grave, and it may be altogether unfavourable if the attack be violent.[1]

Treatment.—Rest in the recumbent posture will be sufficient for moderate degrees of the œdema from pressure; but if more excessive, we must try mild saline purgatives, with diuretics—though it must be confessed that they often fail.

In cases of extreme distention, where we dread the skin giving way, it will be better to evacuate the fluid by small punctures with the lancet, or a needle, in the leg or foot. (Gardien.[2])

The fluid must also be evacuated in those cases where the size of the labia offers an impediment to the completion of labour; but this is better done by repeated blisters than by punctures. (Gardien.)

When erysipelas attacks the œdematous limb, we are recommended to make free incisions into the inflamed part, in addition to the ordinary modes of treatment. If an abscess form, it will undoubtedly be advisable to afford an exit to the matter.

When the dropsy is general, and accompanied by fever, the treatment must be much more active, and of an antiphlogistic character.

Blood should be taken from the arm, and an active purgative administered. Tartar emetic in small doses will also be found useful.

These remedies are to be repeated or modified, according to the violence or continuance of the attack; and in general we shall succeed in subduing it, if we are called sufficiently early.

CHAPTER IX.

ASCITES. HYDROTHORAX. *Ascite*, Fr. *Wassergeschwulst der Schwangern*, G.

In some females we find the dropsical diathesis so strongly marked, that the effusion is not confined to the cellular tissue but occupies one or other of the great cavities of the body.[3]

[1] "The prognosis in this affection is favourable, especially when it subsides after the patient has been for some little time in the recumbent posture; but when it is connected with plethora and a frequent pulse, it requires to be watched and actively treated."—*Campbell's Midwifery*, p. 516.

[2] "If the infiltration be so considerable, that there is reason to fear that the skin will burst, it will be better to give issue to the fluid by slight punctures ('*legeres mouchetures*') in the feet and legs. If we wish to dissipate serous infiltration of the labia, it will be better to apply a blister between the thighs and labia, than to puncture the parts. In following this suggestion of Levret, we shall avoid the formation of cicatrices, which might become an impediment at the time of delivery."—*Gardien, Traité d'Accouch.* vol. ii. p. 91.

[3] "But besides this œdema, which is so frequent, and unattended with any danger, there is a dropsical affection, which is noticed by others, and

These cases are almost always examples of the acute or inflammatory dropsy, excepting when caused by organic disease (as of the liver) preceding or accompanying pregnancy.

The attack seldom occurs till the latter months of gestation.

Symptoms.—The quick pulse, feverishness, and pain, which I have already described as accompanying acute dropsy, may be present with an unusual enlargement of the abdomen for the period of pregnancy.[1] There is very little tenderness of the abdomen; but fluctuation is very evident. The stomach is sometimes disordered, the skin dry, and the urine scanty. The audible signs of pregnancy are more faint and distant than usual, and the motions of the child are scarcely perceptible externally.

The patient finds great difficulty in moving about, because of her increased bulk, and when she lies down she generally suffers from dyspnœa and sleeplessness, or if she do sleep, from dreams.

Ascites is generally accompanied or preceded by some œdema of the feet and ancles; but it may form a part of that general dropsy to which I have before referred.

In many of these cases, labour comes on prematurely, and the child is lost.

In others, the ascites disappear before the full time, and the labour terminates naturally and successfully.

Lastly, in some the irritation and fever subside, but the dropsy remains. At the time of labour, the accumulation of fluid in the peritoneal sac will lengthen the labour, by depriving the patient, to a great extent, of the assistance of the abdominal muscles; but there is seldom any danger in the delay. If the effusion disappear after labour, the patient will do well, but this is not always the case, and then the convalescence may be tedious or imperfect; and if the constitution be much injured, she may die soon after delivery.

It is difficult to say what effect the ascites has upon the child, or how far it may inherit the diathesis. In some cases it has been born dead, with effusion into the abdomen; but in others it has been strong and healthy.

The disappearance of the fluid after delivery is generally owing to active absorption, or to suspended secretion; but occasionally it

which I myself have seen in two cases, where the woman, during pregnancy, has a tendency to a general effusion—water exuding in all the principal parts of the body, the legs, the arms, the peritoneal sac, the chest, the head; the disease sometimes predominating in one part of the body, and sometimes in another; but all the principal parts being affected at once."—*Blundell's Obstetricy*, p. 184.

[1] "The first symptoms of ascites are, infiltration of the ancles and feet, most obvious in the evening, gradually extending along the extremities; scanty urine, dry skin, thirst, dyspepsia, and the abdomen enlarging with unusual rapidity. To these succeed troublesome cough, difficult respiration, and restless nights, from frequent startings during sleep, unpleasant dreams, and inability to remain long in the recumbent posture."—*Campbell's Midwifery*, p. 517.

has been known to escape through the fallopian tubes into the uterus, and so issue from the natural passages.[1]

Some few cases are on record, and I have also seen such, where the pleura or arachnoid was apparently the seat of the effusion, giving rise to dyspnœa, and sense of smothering, or to sleeplessness and stupor.[2]

These cases, if not actively treated, frequently prove fatal.

Diagnosis.—The first question for our solution will probably be, whether the patient be *pregnant or dropsical;* and secondly, *if*

[1] "Although the abdominal water of ascites, and the liquor amnii, are in distinct cavities, yet it has happened in some rare instances, that the water in the cavity of the abdomen has made its escape through the uterus. In these cases the water insinuates itself into the fallopian tubes; the fimbriated terminations of those tubes opening into the pelvis, and the other ends into the cavity of the uterus. The hydropic water is supposed to insinuate itself into the fallopian tubes after the expulsion of the fœtus. It has also been supposed that something more than mechanical action must be the cause of this—for it has sometimes been observed, when there has been a brisk discharge, that a sudden cessation of it has taken place. It might therefore be concluded, that as long as the tubes are pervious, agreeably to the idea of a mechanical insinuation of the water into them—or as long as they are disposed to act as living tubes, so as to perform the function of absorption, agreeably to the other idea—parturition might be looked to as a natural cure for dropsy of the abdomen. But such hopes are not likely often to be realised. The fallopian tubes may, indeed, sometimes act as absorbents, and take up all the accumulated fluid in the manner stated. The author has known one woman who had several of these accumulations pass through the uterus, or at least discharged by the way of the genital passage. After that result, and by the use of warm medicines and chalybeates, she entirely recovered her health. Some time subsequently, she became pregnant, and afterwards did quite well. Upon the whole, therefore, our answer should be, that sometimes the disease is cured by delivery, and sometimes not—so as neither much to elevate, nor on the other hand greatly to depress, the hopes of the patient."—*Davis's Obstetric Medicine*, vol. ii. p. 878.

[2] "A woman of vigorous constitution enough, was seized during pregnancy with general effusion; parturition however came on, and the complaint ceased. Becoming pregnant again, she was a second time seized with effusion, which took place in the legs, the chest, and the abdomen. A very eminent practitioner was called in consultation with myself in this case; nothing very active was attempted; we did not see our way clearly to bloodletting; the water continued to accumulate, and the woman ultimately died, apparently from hydrothorax." "Some time afterwards I was called to another patient, also of a constitution tolerably sound; in this case the effusion had taken place into the legs, the abdomen, and probably the head; for at the time when I saw her she was insensible, and had occasionally convulsive fits. This woman was very freely bled, to the amount of forty or fifty ounces at least, in the course of two or three hours; premature delivery was intended, but parturition came on of itself in the course of the four-and-twenty hours; the next day I found the patient a great deal better; the day afterwards, she was so much improved that she appeared to be in a state of speedy convalescence; unfortunately, however, she was seized with the puerperal fever, a complaint very prevalent and very fatal at the time, and though she was in the hands of a very excellent practitioner, she sunk under the disease."—*Blundell's Obstetricy*, p. 187.

dropsical, whether she be pregnant also. Mistakes have been made on both these points, as the records of midwifery prove. Our main reliance is upon a careful investigation into the signs of pregnancy; and if they be present, a due estimation of the modifications in them which are caused by ascites.[1] These rules have been so well laid down by writers on legal medicine, and especially by my friends Drs. Kennedy and Montgomery, that I cannot do better than refer to their works.

It will also be found very difficult to distinguish ascites during pregnancy, from *dropsy of the amnion.* But sometimes, if the abdomen be not tense, the smaller uterine tumour can be distinguished in the midst of the dropsical effusion, when the patient is lying down.

Prognosis.—From what has been said, it will be evident that our prognosis should be extremely guarded. The patient may recover under favourable circumstances; but if the irritation be great, or the constitution injured, she may sink after delivery, whether she go the full time or not.[2]

Treatment.—As long as the effusion is very moderate, little need be done, beyond keeping the bowels free; but if it occasion distress, and there be much general irritation, bloodletting may be employed, followed by diuretics and saline purgatives, so as to afford some relief, and enable the patient to complete the full term of gestation. The posture must be so regulated as to afford the greatest ease. The diet should consist chiefly of solid food, of a nutritious quality.

If the effusion, either into abdomen or chest, be extreme, and not diminished by the remedies employed, it may be necessary to decide

[1] "The late Dr. Haighton used to mention a case to which he had been called in consultation with a surgeon of the first eminence, who was about to perform the operation of paracentesis, prior to which, the doctor requested to be allowed to make an examination, per vaginam. He found the os uteri a little open, and the membranes protruding; on rupturing the bag, a very large quantity of liquor amnii was discharged; presently afterwards followed a shrivelled fœtus, and the ascitic symptoms, as might have been expected, instantly disappeared."—*Denman's Midwifery*, p. 166.

[2] "The *prognosis* should be guarded, more especially when the disease appears in more than one pregnancy; for after delivery, in such cases, it makes rapid strides, and proves fatal. One patient, of a delicate habit of body, in my own practice, had ascites in two successive pregnancies. In the first it was with difficulty removed subsequent to delivery; but after the second, the patient, though left in the most favourable condition, died in twelve hours. Scarcely two pounds of water were found in the abdomen, nor any morbid appearance to account for death. Sometimes premature labour is induced by the combined irritation of the dropsy and pregnancy, and the patient gradually sinks after delivery. I once witnessed a case of this kind, where the disease had been brought on by chronic inflammation of the liver. Another example happened in this city, where a similar state of the liver and ascites had been induced by a frequent indulgence in stimuli; and the patient died undelivered, under the most pusillanimous treatment. Such cases are exceedingly intractable."—*Campbell's Midwifery*, p. 517.

between abdominal paracentesis,[1] and the induction of premature labour.[2] If the child be strong and lively, it may be desirable, for its sake, in some cases, that the mother should incur the risk of the former operation; but in the majority of cases I should unhesitatingly prefer the latter, especially at or after the seventh month, as avoiding all risk to the mother, and perhaps saving the life of the child. Moreover, paracentesis is not unfrequently followed by premature labour; the mother thus incurring all the risk, without any benefit.

It has also this advantage, that should the practitioner have been deceived as to the abdominal effusion, the mother's life is not compromised by the operation, as in paracentesis.

If we perform the operation of tapping, great care will be necessary, to avoid wounding the uterus, and to prevent subsequent peritonitis. For the mode of operating, I refer the reader to Cooper's Surgical Dictionary.

Little can be done to afford relief where the ascites is owing to organic disease; but it may be necessary to tap the abdomen, or to induce premature labour, if the effusion compromise the mother's safety.

[1] "If the swelling increase," Burns says, "paracentesis must be performed; and I am surprised that there should even have been a moment's doubt as to its propriety, for there certainly can be none as to its safety. When the navel projects much, and is very thin, it has been proposed to puncture it with a lancet. In one case, related by M. Ollivier, the fluid continued to be discharged for twelve days, after which the puncture closed. In another the patient herself pierced the navel fifteen or twenty times with a needle."—*Burns's Midwifery*, p. 269.

[2] "There is, too, another remedy, peculiar to this form of dropsy, and not to be lost sight of, and that is, the delivery of the woman; for the disease, being connected with pregnancy, and evidently of danger, in the more pressing cases, we are justified in bringing gestation to a close as soon as may be."—*Blundell's Obstetricy*, p. 186.

PART II.

OBSERVATIONS

ON THE

DISEASES INCIDENT TO CHILDBED.

It is, I fear, impossible to make any scientific arrangement of this class of diseases, involving so many tissues, and occurring so irregularly. In consequence of this difficulty, I have determined to describe those diseases and accidents first, which affect the uterine system; then, those which seem to be propagated from it; and lastly, certain febrile affections and disorders of the breasts.

But in order that the limits of disease may be more perfectly defined, I have prefixed a notice of the ordinary phenomena of convalescence, with some variations therefrom, not involving organic disease, and some directions for the management of pregnant females.

CHAPTER I.

ON CONVALESCENCE AFTER PARTURITION.

In considering this subject, we shall assume that the patient, previous to labour, was strong and healthy; that the labour has been natural (under twenty-four hours), with the first and second stages bearing their usual proportion (2 to 1) to each other, and neither accompanied nor followed by any accidental complication, as convulsions, hemorrhage, &c.

No one can examine the condition of such a patient, before and after a labour of even a few hours' duration, without being struck by the change which has taken place. It is not the mere fatigue which might have followed muscular exertion of the same amount at any time; but there is evidently a much more profound impression on the entire system.

The nervous system is more or less affected; the secretions are altered; new ones are established; the uterine system in itself, and in its relations, is completely changed; the circulation is disturbed, &c. &c.

A little more detail upon each of these phenomena will be necessary.

1. *The nervous shock.* The sudden alteration of the eye, the diminished or increased sensibility of the brain, the disturbance of the respiratory and circulating system, the altered secretions, the great exhaustion, &c. all are evidence of a shock to the nervous system, the effects of which are thus extensively felt. After easy labours, it is not very remarkable, and the patient soon recovers from it; but it is too manifest to be questioned, after those of a more serious character.

It has been usual to attribute the exhaustion of the patient to the fatigue resulting from muscular effort; but when the whole of the immediate consequences of labour are considered, and especially when extreme cases are examined, I think there is proof of much more than mere muscular exhaustion. The late distinguished Professor of Edinburgh, Dr. Hamilton, admitted this; for in his section on convalescence after delivery, in his Practical Observations, he repeatedly alludes to the *shock*.

When the shock is moderate, it gradually subsides, provided that the patient be kept free from all disturbance and excitement, and that she obtain a few hours' sleep. In proportion to the rapidity and completeness of its subsidence, will be the return of comfort to the patient, and the restoration of those functions which were disturbed in consequence of it.

2. *The state of the circulation and respiration.* The changes induced in these systems appear to be partly the result of the muscular exertion, and partly in consequence of the nervous shock. I have carefully investigated the state of the pulse in a number of cases; and in the majority I have found the following alternations to take place. During the second stage of labour, the pulse always increases in frequency, though the amount varies in different persons. Shortly after delivery it falls, nearly, but not quite in proportion to its previous frequency; *i. e.* it becomes nearly as much below the ordinary standard, as it was above it, previously. After the lapse of a few hours, a reaction takes place, the amount of which is nearly, but not quite in proportion to the original increase and subsequent collapse. Again, after twelve or fourteen hours it subsides, to be again increased on the secretion of the milk; after which, if the patient go on well, it gradually returns to the ordinary standard.

To illustrate my meaning, let us suppose that during the second stage the pulse mounts up to 120; then, during the collapse, it will fall perhaps to 60; and on reaction taking place, it will rise to 100 or 110. I do not intend to give this illustration as the accurate standard of these changes, but merely as illustrative of the alternations I have generally observed; nor do I say that they occur in every case, but only that I have noticed them in a very large majority.

I have never been able to discover any proportion, between the frequency of pulse induced by the secretion of milk, and its previous state.

The importance of these successive alternations will be seen more strikingly, when we come to consider the variations from normal convalescence; it may suffice to say, that I have seldom seen them absent (the pulse having increased during the second stage,) without serious cause.

The frequency of respiration is in accordance with that of the pulse, after natural labour, when the nervous shock has been moderated. During the increase of the circulation, the number of respirations per minute is increased, and again diminished during the collapse.

3. *State of the uterus, vagina, &c.* Immediately after delivery, the uterus contracts more or less firmly, so as to reduce its size to about that of an infant's head. This contraction is beneficial in several ways: it prevents hemorrhage, it empties the uterine cavity, and diminishes the calibre of the uterine vessels and sinuses. After a short period of contraction, an interval of relaxation ensues, followed in its turn by renewed contractions.[1] The repeated contractions reduce the size of the uterus gradually, until about the eighth or tenth day, it is small enough to descend into the pelvis.

Previous to this, it can easily be examined through the relaxed abdominal parietes, and a tolerably accurate knowledge obtained of its condition; but subsequently we can only reach the fundus at the brim of the pelvis; and after another week, it disappears altogether. There have been various opinions as to the mechanism of so rapid a change in the size of the uterus—some attributing it solely to the repeated contraction; and considering that the closing of the interstices between the fibres, and the exclusion of the supply of blood, would explain the diminution in size. (Murat,[2] Ramsbotham, &c.); others suppose that absorption goes on rapidly at the same time. (Hamilton.[3])

[1] "A contractile effort is continued, which produces from day to day a still more perceptible diminution, and proceeds till the uterus has acquired its pristine size. Along with the contractile effort, we have a material abstraction of the vascular supply. By the assistance of these agencies, the uterus is altogether restored to a state, under which it is again capable of impregnation. Absorption has little to do in this part of the process."—*Ramsbotham's Pract. Obs. in Midwifery*, vol. i. p. 62.

[2] Dict. des Sciences Med. vol. xxviii. p. 517.

[3] Pract. Obs. in Midwifery, part ii. p. 7.

It is evident that this question can only be decided by the solution of a previous one, viz., whether, during the enlargement of the uterus, there is any deposite of new matter? If not, it is not more difficult to imagine the uterus restored to its natural size by the aid of contraction alone, than to suppose its increase dependent solely upon distention. It is a point, however, upon which I should be unwilling to speak very positively.

The condition of the cavity of the uterus is of great interest.[1] When examined a day or two after delivery, the lining membrane appears loose and corrugated, somewhat softened, and covered more or less by patches of the decidua. The part to which the placenta was attached, is raised above the level of the surrounding parts; its surface is unequal, resembling in this respect a granulating ulcer; its size is wonderfully reduced.

The whole internal surface is of a dark ash colour, while the discharge upon it may be greenish or brownish, giving the appearance of a morbid condition of the parts—indeed I have known it pronounced to be gangrene.

The structure of the uterus, if cut into, is found to be less dense than natural, and the fibres more distinct; the sinuses are still very evident, and at the placental insertion they are filled with clots of blood.

The os and cervix uteri are covered with ecchymoses, as though they had been severely bruised; and sometimes small lacerations may be observed in the edge. The orifice remains open for some days, but gradually closes.[2]

The *vagina* is speedily reduced in size after its great distention: at first there is considerable heat and soreness; but this shortly subsides, unless the head of the child have remained long in the pelvis,

[1] "For several days after delivery, when no disease of the uterus has supervened, its lining membrane is coated with a yellowish brown, dark red, or ash gray coloured layer of no great thickness, which seems to be formed chiefly of the fibrine of the blood, with small portions of deciduous membrane. The os and cervix uteri are at this time of a deep red colour, from blood extravasated under the lining membrane. . Where the placenta had adhered. numerous dark coloured coagula of blood are found to seal up the orifices of the uterine sinuses, and frequently to extend a considerable distance into the veins."—*Lee, on some of the more important Diseases of Women*, p. 36.

[2] "By an examination, per vaginam, we detect the enlarged state of the uterus, and its identity with the abdominal tumour: and at the same time we ascertain the condition of the os uteri, which, in a recently delivered woman, is found gaping open, so that two or three fingers might be introduced into it with ease; its margins are flabby, and very much relaxed, and not unfrequently feel as if divided by very small fissures." "The vagina also is greatly relaxed and dilated, in consequence of which its natural surface is rendered smooth, its natural rugæ being obliterated by the recent distention of its tissues. From the same cause also the external parts are swollen, not unfrequently contused, or even torn, especially after a first or a difficult labour, and partake of the relaxed state of the internal parts; there is also found issuing a peculiar discharge, to which we apply the name of lochia."—*Montgomery, Signs of Pregnancy and Delivery*, p. 304.

or the lochia be acrid. The lower outlet, too, resumes its natural capacity in a shorter time than would have been believed possible.[1]

The abdominal integuments are longer in resuming their natural state; they remain flaccid and loose for a considerable time; but if care be taken in the bandaging, but little evidence, beyond the presence of the white streaks,[2] is afforded after a month or two, of their previous distention.

4. *After-pains.* The contractions of the uterus, subsequent to delivery, of which we have spoken, are unaccompanied by pain in primiparous women; but in subsequent labours they cause more or less suffering, and are called "after-pains." They vary a good deal in their frequency, their severity, and their duration. The first is generally felt within half an hour after delivery, and they ordinarily cease in thirty or forty hours, though they may continue longer.[3] They are not generally accompanied with any bearing down efforts, nor by an increased frequency of the pulse. During their presence, the discharge from the uterus increases considerably, and coagula are frequently expelled. From this latter circumstance, they have been attributed to the presence of coagulated blood in the uterus;[4] but though they are often exasperated by this circumstance, they occur equally when no clots are expelled. Their operation is, within certain limits, undoubtedly salutary—they prevent the occurrence of uterine hemorrhage, reduce the uterus to its original

[1] "I was once called on to examine a woman, five days after delivery, at the full time, and was particularly struck with the degree in which the parts had restored themselves to their natural condition, especially the os and cervix uteri, which hardly differed from their natural unimpregnated form and size."—*Montgomery, Signs of Pregnancy.* p. 292.

[2] "The presence of broken streaks, running in nearly concentric curved lines—of a shining white, or sometimes pearly colour, most numerous in the lower part of the abdomen, and sometimes observed on the nates and upper part of the thighs, like the remains of numerous small cicatrices, the surface of which seems reticulated, or as if the texture of the skin had been frayed, is a sign of acknowledged value. These marks are produced by the giving way of the true skin, under the distention caused by the enlarged uterus; and when once formed, are permanent."—*Montgomery, Signs of Pregnancy and Delivery*, p. 296.

[3] "The contractile effort is soon after delivery, and indeed for the first few days, attended with pain, which returns at long intervals, but gradually subsides; it is afterwards performed in so silent a manner, that the patient is ignorant of its progress. These pains are called the after-pains.'—*Ramsbotham's Pract. Obs. in Midwifery*, vol. i. p. 63.

[4] "After-pains commonly happen when the fibrous part of the blood is retained in the *uterus* or *vagina*, and formed into large clots, which are detained by the sudden contraction of the *os internum* and *externum*, after the *placenta* is delivered; or if these should be extracted, others will sometimes be formed, though not so large as the first, because the cavity of the womb is continually diminishing after the birth. The uterus, in contracting, presses down these coagulums to the os internum, which, being again gradually stretched, produces a degree of labour pains, owing to the irritation of its nerves."—*Smellie's Midwifery*, vol. i. p. 286.

Also, Dewees's Compendium of Midwifery, p. 196.

size, and expel any coagula or discharge which may have accumulated.[1]

The application of the child to the breast will often bring on after-pains, and prolong their continuance. (Dewees.[2])

5. *The lochia.* The discharge of blood which accompanies delivery, continues for some time afterwards, doubtless from the mouths of the vessels exposed by the separation of the placenta;[3] but after a while, the character of the discharge changes, and it can no longer be considered a mere escape of blood, but exhibits all the characters of a secretion. The state of the lining membrane of the uterus would lead us to expect such an occurrence. This discharge is called the "lochia;" or in popular language, "the cleansings." For three, four, or five days, it continues of a red colour, but much thinner, and more watery than blood, and not coagulable; it then sometimes becomes yellowish, like puriform matter; but more frequently maintaining its serous consistence, it changes its colour successively to greenish, yellowish, and lastly to that of soiled water.[4]

It has a very peculiar odour, which can neither be mistaken nor forgotten, but which it is impossible to describe.[5]

[1] After-pains "rarely occur after the birth of first children. They are spasmodic contractions of the uterus, either to reduce its volume to its original size, or (which is more common) to expel some coagulated blood contained in its cavity." "With all the care which can be taken, after-pains will sometimes take place. If they are intended to answer either or both of the purposes mentioned above, it is evident that their operation is, upon the whole, salutary; and on that account, they ought not to be prevented altogether. But they are sometimes so violent in this degree, that they deprive the woman of rest."—*Dr. John Clarke's Essays*, p. 39.

[2] Compendium of Midwifery, p. 197.

[3] "The discharge which takes place after delivery is called the lochia—it proceeds from the extremities of the vessels exposed by the separation of the placenta: and will of course be in proportion to the size of that mass, the number and size of the vessels, and the degree of contraction of the uterus."—*Dewees's Compendium of Midwifery*, p. 207.

[4] "The red colour of the *lochia* commonly continues till the fifth day, though it is always turning more and more serous from the beginning; but about the fifth day it flows off clear; or sometimes (though seldom) of a greenish tint." "Though the lochia, as we have already observed, commonly continue till the eighteenth or twentieth day, they are every day diminishing in quantity, and soonest cease in those women who suckle their children, or have had an extraordinary discharge at first; but the colour, quantity, and duration, differ in different women: in some patients the red colour disappears on the first or second day; in others, though rarely, it continues more or less to the end of the month. The evacuation in some is very small—in others, excessive; in one woman it ceases very soon; in another, flows during the whole month: yet all of these patients shall do well."—*Smellie's Midwifery*, vol. i. p. 258.

[5] "The flow from the uterus gradually undergoes certain changes in its character and appearance—becoming just like bloody serum; then milky-like or purulent; then greenish or brownish, with an offensive smell, and acquiring an acrimonious quality, tending to excoriate the external parts; and finally colourless and inodorous, previous to its ceasing altogether. This

The duration of its flow varies a good deal; in some women it ceases naturally, and without bad consequences, a few days after delivery; and I have observed this to be frequently the case with women who have been delivered of still-born or putrid infants. Generally speaking, in these countries it does not entirely cease till the end of three weeks or a month; but much will depend upon the constitution of the patient.

As to the quantity, it is impossible to fix any limits—it will depend partly upon the extent of secreting surface, and partly upon the duration of the discharge; and the effect upon the convalescence of the patient will be in proportion to the amount.[1]

There can be no question but that the secretion (with one exception) is necessary for uterine health, and that a sudden interruption of it is attended with bad consequences.

6. *The secretions and excretions.* From the exertions of the second stage of labour, the secretion of the skin is increased, so that the surface is bathed in perspiration. After delivery, this active state of the secretion diminishes somewhat, but still continues above the ordinary standard; and very often the perspiration has a faint sickly odour. The skin is soft and flabby, with a slightly greasy feel.

As convalescence progresses, the surface returns to its natural state.

The kidneys may retain their usual activity, or, which is more frequent, have it somewhat increased after delivery, notwithstanding the unusual amount of perspiration: but this may be owing to the diet, consisting principally of fluid matter.

The state of the bowels varies—sometimes it is unaltered; in others it is the reverse of what it was during gestation—patients who were constipated having now no need of medicine; and those who were annoyed by diarrhœa, having solid motions. The latter change is by no means uncommon, and may probably be owing to the increased secretion from the skin and kidneys.

discharge, technically styled the lochia (in vulgar language, the cleansings), varies in appearance, in quantity, and in duration, not only in different women, but in the same women in different lyings-in; and it never naturally ceases till the uterine system be restored, or nearly so, to its ordinary condition in the unimpregnated state."—*Hamilton's Pract. Obs.* part ii. p. 3.

"This fluid has a peculiar odour, not easily named, which distinguishes it from menstruation, leucorrhœa, or morbid discharges. Lowder compared it to the smell of 'fish oil;' others speak of it as a sour smell; but any one who has been much about lying-in women, especially in the wards of a lying-in-hospital, must be aware of the peculiarity of this '*odor gravis puerperii*,' which, Dr. Beck informs us, it has been found impossible to destroy."—*Montgomery Signs of Pregnancy and Delivery*, p. 305.

[1] "Much pains have been taken to ascertain the average quantity of the lochial discharge which comes away, with a view to regulate it, especially as the foundation of many diseases has been conceived to be laid in the redundancy or paucity of it. But when we consider what the nature of the evacuation is, the difference of the quantity will be found to vary much, and not to be reducible to any rule."—*Dr. John Clarke's Essays*, p. 30.

7. *The milk.* The enlargement of the breasts during gestation is generally accompanied with the secretion of a serous fluid, differing from true milk, though in some cases (seldom with first children) true milk is secreted during labour, and the woman can give suck immediately afterward.

In ordinary cases, however, the breasts remain quiescent for about twenty-four hours,[1] but soon after that begin to enlarge, with stings of pain. At the end of the second, or the beginning of the third day, they are perceptibly larger, heavier, and more tense; the patient suffers from rigors, heat of skin, pain, or soreness of the breasts, and the pulse is quickened.[2] At this time the secretion commences—at first slowly, and with difficulty; but afterwards more freely and abundantly; and in proportion to the freedom of secretion is the diminution of the heat, frequency of pulse and pain, until after two or three days it takes place without annoyance or disturbance.

The milk at first secreted differs in quality from that eliminated subsequently; and will often supersede the necessity of purgative medicine to the child.

Variations from this, the ordinary course of secretion, will be noticed hereafter.

CHAPTER II.

ON THE MANAGEMENT OF PUERPERAL FEMALES.

I do not see that I can do better, in speaking of the management of women in childbed, than follow the divisions adopted in treating of the phenomena of the puerperal state.

In ordinary cases, the *nervous system* does not require any active treatment. She should be kept for some time in a state of perfect quiet. The room should be slightly darkened, and very few persons, except the nurse, admitted. Little or no talking should be permitted, and no whispering.[3] The conversation and demeanour

[1] "The means from which the secretion is furnished are sparingly supplied for the first twenty-four hours, and the secretion is scanty: after that period, both are improved: by the end of the third or fourth day, the breasts are freely distended, and the supply amply afforded."—*Ramsbotham's Pract. Obs*, vol. i. p. 70.

[2] "After the shock occasioned by the violence of the labour has subsided, the current of blood is directed from the uterus to the mammæ, and the secretion of milk begins; and this new function is commonly productive of a considerable disturbance of the general system, constituting what is termed the milk fever—the violence and duration of which are influenced chiefly by the circumstance of the woman's nursing the infant, or discouraging the milk."—*Hamilton's Pract. Obs.* part ii. p. 4.

[3] "While every thing which can possibly make an injurious impression

of all should be cheerful, and no ill news, nor frightful stories, related.[1] Mental emotion of any kind is apt to produce injurious effects.

The horizontal position should be strictly preserved, and the patient should be encouraged to go to sleep. After a few hours' quiet and sleep, the nervous system will have recovered its tone, and the patient will be free from danger on this account.[2]

As the state of the *pulse* is merely symptomatic, it will be remedied best by our successful management of the patient in other respects. It should be narrowly watched, and accurately estimated, as its deviations will often be the first evidence of mischief going on.

Immediately after delivery, it is proper and customary to apply compression *to the abdomen*, by means of a broad binder.[3] This is useful, in the first place, to fix the uterus, and secure its steady contraction; and secondly, to encourage the contraction of the abdominal parietes. The binder should extend from the ensiform cartilage to the pubis, and should be carefully applied for ten days or

upon the senses of hearing and seeing, should be carefully guarded against, there are two errors in this respect which are apt to be committed. The one is, whispering instead of speaking in an under tone; and the other is, keeping the room darkened, instead of being merely shaded from the glare of light."—*Hamilton's Pract. Obs. in Midwifery*, part ii. p. 19.

[1] "The patient's imagination must not be disturbed by the news of any extraordinary accident which may have happened to her family or friends, for such information hath been known to carry off the labour pains entirely after they were begun, and the woman has sunk under her dejection of spirits; and even after delivery, these unseasonable communications have produced such an anxiety as obstructed all the necessary excretions, and brought on a violent fever and convulsions, that ended in death."—*Smellie's Midwifery*, vol. i. p. 253.

[2] "It need hardly be observed here, how much quiet and rest, immediately after labour, must contribute to appease that irritation of the system which is occasioned by the violent efforts of labour; and therefore, of what great consequence it must be, that all admission of company be carefully avoided. The patient should be laid in bed, without being newly dressed; and above all things, she should not be allowed to be in any but an horizontal posture. I have known some instances in which the woman has died immediately after delivery, from being unable to bear an erect posture of body."—*Dr. John Clarke on the Management of Pregnancy and Labour*, p. 25.

[3] "A warm double cloth must be laid on the belly, which is to be surrounded by the head band of the skirt, pinned moderately tight over the cloth, in order to compress the viscera and the relaxed parietes of the abdomen, more or less, as the woman can easily bear it; by which means the uterus is kept firm in the lower part of the abdomen, and prevented from rolling from side to side when the patient is turned."—*Smellie's Midwifery*, vol. i. p. 244.

"As soon as the placenta is detached, moderate and equable compression of the abdomen, by means of a suitable roller, ought to be made without delay. Where there has been great distention of the parietes of the abdomen, one or more cloths, folded up in the form of a compress, should be interposed between the binder and the lower part of the belly, for the purpose of making steady pressure upon the uterus."—*Hamilton's Pract. Obs.* part ii. p. 12.

a fortnight. To the neglect of this precaution are to be attributed the cases of loose or "pendulous belly" we often meet with.

Immediately after the expulsion of the after-birth, a warm napkin should be applied *to the vulva*, and changed at short intervals during the day. This will afford relief from the smarting pain consequent upon the passage of the child. After some hours, when the patient is recovered, the external parts should be washed with tepid milk and water, containing a small portion of spirit. This must be repeated twice a day, not only for the sake of cleanliness, but to aid in restoring the parts to their natural state.[1]

A horizontal posture is peculiarly favourable to the uterine system, in the relaxed state in which they are after delivery; the patient cannot assume an upright position, without a certain amount of displacement, and a risk of hemorrhage. By keeping the patient on her back, we may even remedy old displacements. A lady had prolapsus uteri after her second confinement, which lasted till she became again pregnant; this was mentioned to me when I was called to her in her third labour. I kept her unusually long in bed, and subsequently on a sofa; and the parts completely recovered their natural state, so that she suffered no more from the displacement.

In ordinary cases, the *after-pains* require no treatment; but if they should deprive the patient of sleep, we may give an aromatic purgative, or a dose of laudanum.

The only attention which the *lochia* require, is, that the napkins should be changed sufficiently frequently, and applied warm—as any sudden impression of cold to the external parts may be followed by suppression of this discharge. It is by no means necessary—as stated by some authors—that the patient should change the horizontal position, for the purpose of allowing the lochia to escape from the uterus and vagina. At the utmost, the slight change necessary for passing urine will suffice for this object also.

The state of the *surface* will point out the propriety of not exposing the patient to a draught of cold air. She should be allowed to cool gradually, and then the bed and bed-clothes should be so arranged, as to afford a comfortable degree of warmth, but not great heat.[2] With the same view, the air in the room should be kept

[1] "As soon as the patient can bear the fatigue, the external parts are to be bathed with warm milk and water; and afterwards, as long as there is any uterine discharge, the same parts are to be daily sponged with warm spirits and water, in the proportion of one part of proof spirit to two parts of water."—*Hamilton's Pract. Obs. in Midwifery*, part ii. p. 24.

[2] "On this ground, the custom of keeping women in a state of constant perspiration for a certain number of days after their delivery, by warm drinks, hot rooms, close beds, and diaphoretic medicines, was established; and the greater the degree to which it was carried, the greater security was presumed to be given to the patients from the apprehended diseases. Many inconveniences followed this method of proceeding, especially by checking the natural discharges; by interrupting the secretion of the milk: by reducing

cool and fresh. A fire will probably be necessary (except in very hot weather); but it should be as small as convenience will permit.

Directions should be given for the patient to *make water* within six or eight hours after delivery, or sooner;[1] and this should be done as nearly in the horizontal position as possible. Owing to the distensible state of the abdominal parietes, the patient will often wait much longer, if not reminded; and the consequences may be very troublesome, if not serious. The bladder may become paralysed; or inflammation may spread from it to the peritoneum. If there should be any difficulty in evacuating the bladder, as sometimes happens, a cloth wrung out in warm water, and applied to the vulva, will remove it; or if not, we must have recourse to catheterism.[2]

The *state of the bowels*, after delivery, is of great importance; it is, perhaps, better that they should continue quiet for twelve or fourteen hours after delivery, on account of the fatigue; but after that time has elapsed, we should procure a discharge by medicine, if there be none spontaneously. A dose of castor oil, senna, or rhubarb, may be given; and if necessary, repeated. The frequency of repetition will be regulated by the state of the bowels previous to labour. If we suspect any accumulation, we should not be satisfied until the intestines are well cleared out; and if the patient do not suckle her child, purgatives will be the more necessary, for the relief of the breasts. In the latter case, the saline purgatives will be found the more useful.[3]

the strength, and increasing the irritability of the patient. But the practice was long pursued—neither common sense nor experience having power to extirpate deep-rooted prejudice."—*Denman's Introd. to Midwifery*, p. 464.

[1] "Directions are to be given that the patient make water as soon after delivery as circumstances will permit. For this purpose she must be requested to turn round upon her knees, by which any coagula accumulated within the vagina will be readily expelled. Much injury has in many cases, according to the experience of the author, arisen from inattention to this apparently obvious and simple precaution."—*Hamilton's Pract. Obs. in Midwifery*, part ii. p. 18.

[2] "We should also particularly enquire if she have made water; and if she have not, but have a desire to do so, without the power, a cloth dipped in warm water, and wrung pretty dry, should be applied to the pubis. If this fail, the urine may often be voided if the uterus be gently raised a little with the finger, or the catheter may be introduced. There are two states, on which we are very solicitious that the urine be voided: the first is, when the patient has much pain in the lower belly, with a desire to void urine; the second is after a severe or instrumental labour."—*Burns's Midwifery*, p. 539.

[3] "*Firstly.* Unless it be unequivocally ascertained that the bowels have been regularly cleared previous to delivery, a dose of castor oil or of aloes, combined if necessary with some narcotic, ought to be given as soon as the woman has recovered from the shock of labour; and the appearance of the evacuations ought to be particularly examined.

Secondly. If any indurated fæces be expelled, evincing that there had been an accumulation in the great guts, the same medicine should be continued every eight, ten, or twelve hours, (assisted, if necessary, by preparations of senna,) till it be clearly ascertained that the bowels are completely unloaded.

Thirdly. After the alimentary canal has been thus cleared, it is only

When the breasts begin to enlarge, and to be painful, warm fomentations may be employed, or frictions with warm oil, or a slightly stimulating liniment.[1] A dose of purgative medicine, as already mentioned, should also be given.

As soon as there is reason to suppose that secretion has commenced, the child should be put to the breast, as it will facilitate the escape of the milk, and prevent undue distention.

It is better to do this, even if it should not be the intention of the patient to suckle her infant, as it will afford relief, and by not suffering the child to do more, we insure the ultimate subsidence of the secretion, which is always in proportion to the demand upon it, and if this be very slight, it will soon cease altogether.

The importance of preserving the *horizontal posture* has already been stated; I shall therefore merely add, that the patient should never leave her bed, even to have it made, before the fourth day, and if she can be persuaded to limit her exertions to this point for eight or nine days, so much the better.[2] Far more mischief results from premature exertion, than from all the errors in diet added together.

The regulation of the *diet* is, nevertheless, of considerable importance, as excess, by inducing feverishness, may retard the convalescence.

The patient should be confined to slops—gruel, panada, arrow-root, milk, whey, weak tea, &c.—with bread or toast and butter, or

requisite to secure a daily evacuation, if the woman suckle her infant, unless the reduction of the uterus to its natural size in the unimpregnated state proceed tardily. In that case, (viz. where the reduction of the uterine is tardy,) some medicine, calculated to produce in the course of its operation, four or five copious evacuations, of such a nature as to denote an increased secretion from the surface of the intestines, ought to be prescribed every second, third, or fourth day, according to circumstances. Combinations of rhubarb, with the compound powder of jalap, and the compound tincture of senna, are in general the appropriate medicines for such cases. But in some individuals, other combinations of purgative medicines are required.

Fourthly. If the woman be be not able to suckle her infant, she ought to have every second or third day, according to her strength, till the secretion of milk cease, and the tension of the mammæ subside, a dose of some purgative, calculated to produce several loose chylous evacuations; and for this purpose, combinations of rhubarb, or senna, or colocynth, or scammony, with neutral salts, or other aperients adapted to the individual's case, are to be prescribed."—*Hamilton's Pract. Obs.* part ii. p. 31.

[1] "Covering the surface of each mammæ with some gently stimulating liniment (in those cases where the milk is to be discouraged,) not only relieves the unpleasant feeling of tension, but also promotes the absorption of the milk. The preparation recommended by the author is, one ounce of unbleached bees' wax, two ounces and a half of fine olive oil, and two drachms of pure honey, melted together."—*Hamilton's Pract. Obs. in Midwifery.*

[2] "For these reasons, if there were no other, it seems right that no woman should rise before the end of the third or fourth day, even to have the bed made; and if she be a weakly or delicate subject, she should even observe an horizontal position longer."—*Dr. John Clarke's Essays*, p. 34.

biscuit, for three or four days.[1] When the excitement produced by the secretion of milk has subsided, if there be no counter-indication, she may take some broth, and on the seventh or eighth day some chicken, or mutton chop, with some wine and water.

In all that concerns the diet, or the assumption of the upright position, or making exertion, it cannot be too strongly impressed upon all, that an excess of caution is an error on the safe side.

In conclusion, I would observe that the patient should not be left until an hour after delivery, and that she ought to be visited again in six or eight hours, at which time careful inquiry should be made as to the different points we have noted, and strict and minute directions given.

CHAPTER III.

ON CERTAIN VARIATIONS FROM ORDINARY CONVALESCENCE.

The phenomena of ordinary convalescence have been described as they occur in the most favourable cases; but there are many variations from such a course, arising either from some peculiarity of constitution, or from the character of the labour, or the pressure exercised upon some of the organs.[2] Even without any reference to the influence of the labour, there are certain irregularities which arise with or without special cause, but which occasion great anxiety to the patient, and even to the medical attendant.

Many of these issue in serious disease, and will be treated of in their place; whilst others, even more numerous, are mere temporary deviations from the normal course—but requiring some familiarity and nice discrimination, in order to distinguish them from the graver attacks. Of these it is proposed to treat briefly in the present chapter.

[1] "In general it is better, I believe, to avoid animal food of all kinds, till the stimulus, arising from the secretion of milk, has subsided. But even this must be done with some limitations, because there are some very weak and delicate women whom it is necessary to support by more substantial food than gruel or barley water, however proper they may be for the strong and plethoric."—*Dr. John Clarke's Essays on the Management of Pregnancy and Labour*, p. 26.

[2] "Again, when there has been unusual suffering during labour, the ordinary changes after delivery cannot be expected to proceed in a healthy, regular manner, because the exhaustion of sensorial power must more or less paralyse the minute internal actions of every part of the system. *Secondly*, the violent pressure to which all the parts concerned in the mechanism of labour had been subjected, must excite an unusual tendency at least to inflammation; and *thirdly*, the long-continued and violent actions of the respiratory organs, must not only render them liable to derangement, but, by their influence upon the capillaries of every part of the body, must occasion an inequality of circulation that may prove highly injurious."—*Hamilton's Prac. Obs.* part ii. p. 9.

1. *The nervous shock* may be very severe. In these cases, the patient complains of great exhaustion; the senses are either unnaturally dull, or morbidly acute, the breathing is hurried, and panting, and the accordance between the respiration and circulation is broken. The aspect of the patient is that of a person in a state of collapse. The countenance is expressive of suffering, anxiety, and oppression. The pulse may be either very slow and laboured, or unusually rapid, very small, and fluttering. There are many cases, however, where the shock, though far from being so severe as in the case I have supposed, is quite sufficiently so to excite the fears of the medical attendant. Reaction is long before it occurs; or it may take place imperfectly or excessively, and the patient remain for some time in a very weak condition.

Under proper treatment, the patient will gradually recover from this state of exhaustion or collapse; unless the shock be excessive, and then death will supervene in a few hours. I have seen several cases of this kind: in one case, the labour was tedious, but terminated naturally; two others were instrumental deliveries; but in none where a *post mortem* examination was obtained, was there either injury or disease discovered.

A due estimate of the nervous shock is of great importance in severe cases; for in almost every instance, the progress of the convalescence is in inverse proportion to the amount of this disturbance.[1]

The best remedy in these cases is opium, either in a large dose or in small and repeated ones; it not only gives the patient a chance of sleep, the best restorative of all; but even if it fail in this, the system will be quieted, and respiration rendered more equable, the pulse slower and more natural, and the relation between these two systems restored.

The exhibition of stimulants (wine, or brandy and water) in moderate quantities, is necessary; but we must be careful not to

[1] "From the moment of delivery it is of the utmost importance to attend to the state of the nervous system. In some individuals slight circumstances increase in a wonderful degree the susceptibility of impression; and if this be overlooked, very serious consequences follow."

"Various means are required to prevent or remove this increased susceptibility of impression, but in the greater number of cases it will be found that the following treatment answers the purpose. Instead of the farinaceous diet, which in ordinary cases ought to be enjoyed for the first few days, chicken broth, or boiled chicken, ought to be recommended; and even in some cases, a moderate proportion of diluted wine."

"Any attempt at suckling the infant should be discouraged; for in certain constitutions the drain of milk, independent altogether of the fatigue, is apt to occasion very serious nervous affections, such as melancholia, &c."

"Six or eight hours of uninterrupted sleep every twenty-four hours should if possible be procured." "In cases of violent palpitations of the heart, the musk will be found superior to every other medicine, provided it be administered in a sufficiently large dose. The author has invariably prescribed in similar cases two scruples, that is, forty grains, as the smallest dose."—*Hamilton's Prac. Obser. in Midwifery*, part ii. pp. 19, 20, 21.

exceed, or they will do mischief instead of good. The amount of stimulants given in most cases of collapse should have reference as well to the probable reaction as to the present state of the patient: thus an excessive quantity of wine given during the collapse of the nervous shock, may render the reaction so extreme as to give rise to fever, or puerperal mania. Ammonia or musk are the best medicinal stimulants, and they may be combined with the opium. The diet of the patient, when the effects of the shock have subsided, must be nutritious. It may be necessary to postpone the application of the child to the breast for some days, or even to give up suckling altogether in some cases.

All that has been said already upon the necessity of perfect quiet, applies with ten-fold force to these cases of extreme nervous shock.

2. *The state of the pulse.* One variation from the usual alternations of the pulse has just been noted, in cases of great nervous shock, when it either sinks below its due proportion, or more frequently remains very quick, weak, and fluttering, during the period of collapse.

In almost all the cases of flooding after labour, when I have had an opportunity of examining the pulse up to the time of the occurence, I have found it remain quick, and perhaps full, instead of sinking after delivery. This has been so marked in several cases, that I now never leave a patient so long as this peculiarity remains; and in more than one instance I believe the patient has owed her safety to this precaution. Three cases occurred within a very short time of each other, in which I noted this undue quickness of the pulse without any other untoward symptom; at that time there was no excessive discharge, and the uterus was well contracted. In all these, alarming hemorrhage occurred within an hour, and was with difficulty arrested.

I have also remarked an undue frequency of pulse when the after-pains are extremely violent; and as the uterus is in such cases rather tender on pressure, it requires care to distinguish between this state and the commencement of puerperal fever.

This observation will also apply to the quickening of the circulation, which takes place when lactation commences, and which in addition is accompanied by rigours.

A careful estimate of all the symptoms in either case will generally elucidate the nature of the excitement, and the subsequent diminution instead of increase of the pulse will decide the question.

Again, in cases where a large coagulum is contained in the uterus, the pulse is quickened. I had noticed this repeatedly before I could explain it; but having found it subside immediately on the discharge of clots, I have no doubt that this was the cause.

Lastly, the pulse may be accelerated if the patient suffer from diarrhœa or gastric disturbance; and as it is not always easy to foresee the issue of such an attack, the utmost watchfulness will be required.

The diagnosis may be very obscure, and it may be necessary to adopt certain measures, rather suited to the attack we fear, than to

the disturbance from which the patient is suffering. Along with the soothing and astringent medicine adapted to the state of the bowels, it will be prudent to administer small doses of blue pill or calomel, in combination with opium.

All the observations I have made, fully confirm Dr. John Clarke's observation, that no woman can be considered as *safe*, whose pulse exceeds one hundred.

3. *The state of the uterine system.* With regard to the variations from the ordinary size of *the womb*, and its gradual decrease, I have found sometimes, on the fourth or fifth day, that its bulk had *increased*, and that it felt less firm than previously; this, combined with an increase of frequency in the pulse, has made me fear an attack of hysteritis; and this fear was not diminished by the uncomfortable sensations of the patient; nor by the fact, that in some cases the lochia had suddenly diminished in quantity. However, upon applying hot fomentations to the abdomen, a quantity of coagula were discharged, affording instant relief to the patient, and indicating the source of the symptoms. Purgative enemata also favour the expulsion of the clots; and in such cases may be given with great benefit.

It has been already mentioned that the uterus is not free from tenderness in cases where the after-pains are severe; and if it be rudely pressed, the outcry of the patient may lead us to suspect the presence of serious disease. It will be observed, however, that this tenderness is *greatest during each uterine contraction, and that as these contractions subside, the soreness diminishes.*

Fomentations to the abdomen will generally mitigate this sensibility; but if the after-pains be severe, and the tenderness considerable, a full dose of laudanum, followed by an aromatic purgative, will probably relieve both.

The *vagina* may be attacked with inflammation, which sometimes proves extremely distressing: this will form the subject of a separate chapter.

In cases where the lochia are acrid, the orifice of the vagina, with the labia and external parts, are apt to be excoriated. The patient may suffer extremely either from a smarting pain, or from itching; and it is difficult to say which is the more distressing. Extreme cleanliness, frequent bathing, lead lotions, black wash, or vaginal injections of warm water, may be tried, and will ordinarily afford relief: if not, the disease will generally subside with the cessation of the lochia.

Neglect in the application of the binder, is very apt to result in an excessive *relaxation of the integuments of the abdomen*, and an unpleasant prominence of the belly, which at a subsequent labour may prove inconvenient, and is at all times unsightly. The best means of removing this relaxation is by friction with stimulating liniments, cold bathing, and a moderately tight bandage.[1]

[1] "When suitable attention has been paid, the relaxation of the parietes of the abdomen has always been removed, and in several cases where, from

After a subsequent labour, it will not be difficult, by careful bandaging, to prevent its recurrence.

4. *The after-pains.* Instead of coming on about half an hour or an hour after the labour, in a moderate degree, and ceasing after a short time, I have known them to commence immediately after the exclusion of the placenta, continue far beyond the usual time, and occasion excruciating agony.[1] In these cases, the tenderness of the uterus was very marked; but when under the influence of remedies the pain ceased, the tenderness disappeared also. The pulse was increased in frequency for the time. This state does not depend upon the presence of coagula in the uterus, as in the worst cases I ever saw, none were expelled; but it seems to be rather a spasmodic contraction of the uterine fibres.[2]

The remedy is a large dose of opium in the most convenient form. Less than forty drops should not be given; and it may be necessary to repeat this dose once or twice. At the same time hot flannels may be applied to the abdomen and vulva.

neglect and mismanagement during successive lyings-in, the individual had such a state of the belly that the parietes hung over the pubes like an apron, keeping up a constant irritation and excoriation on the surface of the groins and upper part of the thighs, he has succeeded in removing that unseemly and uncomfortable condition of the person after a subsequent delivery, by means chiefly of stimulant frictions and pressure."—*Hamilton's Pract. Obs. in Midwifery*, part ii. p. 16.

[1] "After delivery the uterus itself, or its appendages, or any of the contents of the abdomen, may be affected from this cause with pain, varying in degree, but sometimes extremely severe. This may often be relieved by lightly rubbing the abdomen with a warm hand, or with some anodyne embrocation, or the application of warm flannels wrung out of some spirituous fomentation."—*Denman's Introd. to Midwifery*, p. 469.

[2] "Several cases of violent spasms of the uterus have fallen under the Editor's observation, which have been speedily relieved by the liberal exhibition of opium. In one case he administered a teaspoonful of laudanum, and repeated the dose at the expiration of a quarter of an hour. These spasmodic attacks may usually be known by the hard and stony feel of the uterus, through the abdominal coverings; by there being little or no increase of pain on pressure, besides what may be naturally expected so soon after delivery; by the pulse remaining steady and the tongue clean."—*Dr. Waller's note*, p. 470, *in Denman's Midwifery.*

"Hysteralgia (spasmodic pains) may occur soon after delivery, and is marked by severe pain in the back and lower belly, frequent feeble pulse, sickness and faintness. This is sometimes accompanied with discharge, or succeeded by the expulsion of a coagulum. In other cases, although attended with severe bearing down, we have no expulsion of coagulum, no retention of urine, no inversion of the uterus. Another modification of this comes on later, but always within three or four days after delivery, and attacks in general very suddenly. Perhaps the patient has risen to have the bed made, becomes sick, vomits, and is seized with violent pain in the lower part of the belly, or between the navel and pubis. There is no shivering, at least it is not a common attendant, and the pulse becomes very rapid, being sometimes above 120; the skin is hot, the lochia usually obstructed, and the uterine region is somewhat painful on pressure. After some hours, the severity abates, and presently, by proper means, the health is restored."—*Burns's Midwifery*, p. 561.

The after-pains sometimes continue, at intervals, for several days, and are especially severe whenever the patient attempts to give suck. They occasion a good deal of distress and exhaustion, by preventing sleep; and on this account, it is desirable to suspend them after some time.

This may be done by cordials, aromatic purgatives, or a dose of laudanum.

5. *The lochia.* Perhaps no deviations from the ordinary phenomena of convalescence excite more alarm in the patient's mind, than variations in the quantity, quality, and odour of the lochia. She will scarcely be persuaded that such are not the unfailing evidences of organic disease. Yet very remarkable differences do occur, without any morbid affection of the uterus or vagina.

The discharge may cease a few hours after delivery—especially after the birth of still-born or putrid children—without any unpleasant symptoms.

The discharge may continue the usual time, but in very small quantity; and this is commonly the case when flooding occurs during or after delivery.[1]

On the other hand, it may be excessive, though not prolonged beyond the usual time; or without being excessive, it may continue unusually long. In these cases it may be necessary to allow the patient a better diet, and to give tonics, such as bark, preparations of iron, &c.[2]

In some cases, the lochia, after decreasing in quantity for some time, are suddenly discharged in double quantity, and of a red colour, but without coagula. This generally happens when the patient is permitted to sit up too soon. Or it may happen at a later period, in consequence of walking about too much. A little extra rest will, however, suffice to restore the patient to her former state.[3]

Again, the os uteri is sometimes obstructed by a clot, and the

[1] "If there be little or no evacuation of the lochia, and the woman be in health, no remedies are required; and if she be diseased, the means appropriated to the relief of her complaints will reproduce it."—*Dr. John Clarke's Essays*, p. 32.

[2] "The lochia, however, from various causes, will continue for a great length of time—nay, during the whole month, or even longer, to the manifest injury of the patient."

"We have sometimes found this discharge kept up by a febrile condition of the system, which has been perhaps produced by an improper consideration of the case by the friends of the patient, who cannot imagine that any other cause than debility can produce the discharge in question, and accordingly give wine, bark, and cordials, with a view to arrest it; and thus perpetuate the evil they intended to cure." "In cases like those we have just described, we cannot expect to relieve the discharge until we have subdued the febrile condition of the system."—*Dewees's Compendium of Midwifery*, p. 209.

[3] "In the course of these changes, the appearance of blood will return sometimes, even after the serous discharge has begun, from any little irregularity of diet or exercise, which increases the quickness of the circulation, and the force of the heart."—*Dr. John Clarke's Essays*, vol. i. p. 31.

lochia are greatly diminished, or perhaps altogether restrained, until the expulsion of the clot affords an exit to the accumulation.

Instead of the usual changes, from red to yellow, or greenish, the red discharge may persist; or after these changes have taken place, the red discharge may return. In these cases, it is necessary to be on our guard, as the change may be the precursor of secondary hemorrhage. The patient should be confined to the horizontal position, and clothed very lightly.

The lochia, after going through their ordinary changes, may terminate in uterine leucorrhœa, which may become permanent. This will be best remedied by counter-irritation to the sacrum, and the internal exhibition of copaiba, iron, or ergot of rye.

Again, the unusual colour of the lochia may excite alarm. Instead of the transition from red, to a pale red, yellowish, or greenish colour, they are sometimes a dark brown, and perhaps more tenacious than usual—or acrid, so as to excoriate the vulva.

Lastly, examples occasionally occur where the lochia have a very offensive fœtid odour, occasioning great annoyance both to the patient and her friends. The discharge is generally of a dark colour and often acrid.[1] It may arise from the decomposition of a small portion of the placenta or membranes which are left behind, or from the putrefaction of coagula.[2]

I have never seen any serious results from it; and certainly it does not necessarily indicate disease of the uterus.

The vagina should be syringed, twice or three times a day, with warm milk and water, or a very weak solution of chloride of lime.

6. *The bladder.* "After severe labour, the neck of the bladder and urethra are sometimes extremely sensible, and the whole of the vulva is tender, and of a deep red colour. This is productive of very distressing strangury, which is occasionally accompanied with a considerable degree of fever. It is long of being removed, but yields at last to a course of gentle laxatives, opiates, and foment-

[1] "There is another condition of the lochia, which is not only very troublesome, but, from its offensive smell, extremely loathsome; this is when the coloured discharge has disappeared, but is succeeded by a profuse watery one, of a greenish colour; and from this circumstance, is called by the old women, the 'green water.' It is frequently so acrid as to excoriate, and always extremely offensive to smell. The woman is almost always much debilitated by this noisome evacuation: and in some few cases we have seen a kind of hectic disposition has supervened."—*Dewees's Compendium of Midwifery*, p. 211.

[2] "The lochia are sometimes observed to be fœtid; and this has often been supposed to be a proof of disease. But the fœtor of the lochia often depends upon accidental circumstances, where there is certainly no disease —such as a very small portion of the placenta left behind; or portions of the decidua, which putrefy and come away; or the coagula of blood which had been formed in the extremities of the veins and arteries of the uterus, (especially if it have not acted very strongly at the time of expelling the placenta,) putrefying and coming away, give a fœtor to all the rest of the discharges."—*Dr. John Clarke's Essays*, p. 32.

ations. Anodyne clysters are of service. An inability to void the urine requires the regular and speedy use of the catheter."[1]

7. *The breasts.* Variations in the period of the secretion of milk are frequent, but of no moment. If the vascular action be excessive, it must be moderated by antiphlogistic remedies, such as tartar-emetic, fomentations, &c. and by the frequent application of the child.

If, as in some rare cases, no secretion should take place, the child will require a wet nurse, but the mother will not suffer.

When the nipples are deficient or mal-formed, we must endeavour to draw them out by the breast-pump; but if this do not succeed, we must obviate the ill effects of secretion by tartar emetic, saline purgatives, fomentations. &c.

CHAPTER IV.

SANGUINEOUS TUMOUR OF THE LABIA. *Tumeur sanguin des grandes Levres*, Fr. *Blutgeschwulst der äussern Geburtstheile*, G.

This disease was first described in these countries by Dr. Macbride, of Dublin, who, in the year 1776, published two cases in the *Medical Observations and Enquiries.*[2]

[1] Burns's Midwifery, p. 568.

"Dr. Macbride, of Dublin, is generally supposed to be the first author who described this kind of tumefaction of the labium, in 1776; but I have met with a very exact description of it in the *Observations of Vesligius*, published in 1647: he says, Obs. 50, "Alias jam bis observassem ab effuso intra tunicas vaginæ sanguine in partu difficili pudendi labium ingenti tumore distensum fuisse, quo aperto sanguineque atro paulatim evacuato, mulieres evasere."

Professor Boer, of Vienna, in his *Medicina Obstetricia*, has a chapter, *De fluxu quodam sanguinis in Puerperis ante incognito*, in which he describes a most extensive separation of the vagina from its attachments, in consequence of an immense effusion of blood into the cellular substance."—*Merriman's Synopsis*, p. 111, note.

[2] I shall extract the first case from Dr. Macbride's paper.—"One morning, in the month of August, in the year 1776, I was called on by a gentleman's servant to visit his wife, who, he said, had been delivered about an hour before, but, nevertheless, continued in very great pain, and by the people about her was believed to be in a dying way. Upon examination, I soon found that the distress was occasioned by a large and very painful swelling of one of the labia, which the woman told me had formed itself soon after delivery, though she had a natural and easy labour." "I sent for Dr. Cleghorn and the gentleman who had delivered her. By the time that these gentlemen came, which was about an hour, the swelling had acquired the size of a new-born child's head, was exceedingly painful and hard, and extending itself to the perinæum, had a most frightful aspect, as the skin was

A third case was read by Dr. Rainey, of Dublin, in 1774; a fourth was published by Dr. Maitland, in the year 1779;[1] and a fifth by M. Perfect, in 1783.[2] Since that time, it has been noticed by many writers on midwifery. Denman,[3] Burns, Merriman,[4] Dewees,[5] Hamilton,[6] Campbell,[7] Davis,[8] &c. &c.

A case by M. Champion is related in the *Dictionnaire des Sciences Medicales*;[9] and Mad. La Chappelle quotes one.[10] It is also described by Schreider,[11], Siebold,[12] Ebert, Carus.[13]

Latterly, the disease has been more frequently observed.

In his excellent and elaborate address, delivered at the fourth

grown livid. The case being new, none of us could well ascertain the true nature of this tumour; but having directed the application of stupes wrung out of a spirituous fomentation, we agreed to see her again in the evening. At the second visit, we found the pain nothing abated, but the swelling more enlarged, the integuments mortified, and ready to burst at the most prominent part of the tumour. In the course of the night this actually happened, and a large quantity of coagulated blood having discharged itself from the opening, the pain ceased in a great measure, and the swelling was found reduced at least three-fourths, by the time that we paid our morning visit." "There being now a considerable space of the skin in a mortified state, the fomentation was ordered to be continued, and proper digestives applied, with a view of encouraging the separation of the sloughs. For about a week, the quantity of coagulated blood that came away in lumps, was considerable at each dressing; but this discharge gradually abated, and the remainder of what had been extravasated was either melted down in the course of the suppuration, or taken back by absorption—so that by the end of two months, there were no remains left of the swelling, the sore healed up, and the woman found herself free from all complaint."—*Dr. Macbride's Essay in Med. Obs. and Enquiries*, vol. v. p. 90.

[1] Med. Commentaries, vol. vi. p. 86.

[2] Cases, vol. ii. p. 63.

[3] "Sometimes, but very rarely indeed, one of the labia becomes suddenly and enormously enlarged, either towards the conclusion of the labour, or immediately after delivery, from an effusion of blood into the cellular membrane of that part; and in a short space of time after the accident, the skin bursts, from the violence of the distention. This complaint was first described by Dr. Macbride, of Dublin, in the year 1776; and since that time, I have been called to three instances. It occasions very great pain: yet one most important part of it is the surprise it occasions, and the alarm it gives, when it is not well understood. But I believe it is void of danger, not having seen or heard of any dangerous consequences from it, or ever found any thing necessary to be done, but to wrap the tumefied part in a flannel wrung out of warm water and vinegar; and on the discharge of the coagula, which should not be hastened, to dress the sore with some soft liniment."—*Denman's Introd. to Midwifery*, p. 466.

[4] Synopsis, p. 111.

[5] Diseases of Females, p. 32.

[6] Outlines of Midwifery, p. 87.

[7] Midwifery, p. 328.

[8] Obstetric Medicine, vol. i. p. 45.

[9] Vol. xxxiv. p. 268.

[10] Prat. des Accouch. vol. vi. p. 200. See also, Recueil Period. de la Soc. de Santé de Paris.

[11] Siebold's Journal, vol. xi. p. 103.

[12] Frauenzimmerkrankheiten, vol. ii. p. 482.

[13] See Med. Chir. Rev. vol. xxii. p. 224.

anniversary meeting of the Provincial Medical and Surgical Association, held at Manchester, July 21, 1836, Mr. Crosse[1] remarks: "In no branch of midwifery have more contributions been furnished, within the recent period to which I refer, than in regard to certain *varices* attaining an enormous size, and bursting, so as to form sanguineous extravasation into the labia or cellular texture of the pelvis and vagina, often with a suddenly fatal result. Within the sphere of my own observation, one such case has recently transpired, which led to a coroner's inquest,[2] as unfortunate cases in this line of practice are not unfrequently found to do—affording strong proof of the responsibility incurred by the accoucheur. The names of Phillipart,[3] Naegelè, jun.,[4] Stendel,[5] and others,[6] may be enumerated, in the impossibility which I find of dwelling upon the subject; and the elaborate paper of Mr. Ingleby upon tumours[7] obstructing delivery, may be consulted as affording the best rule for discovering and treating such cases."

From the history I have given, it is evident that the disease is of very rare occurrence.

This disease, which consists of an effusion of blood into the cellular tissue, may affect one or both labia (*Baudelocque*), and may extend into the pelvis, and downwards to the perineum. It may occur during labour, previous to the delivery of the child (Maitland,[8]) but more frequently immediately after.[9]

[1] Trans. of Provincial Med. and Surg. Assoc. vol. v. p. 95.

[2] During a protracted labour, rupture of the left labium took place, to the extent of two or three inches, followed by a great loss of blood, and the patient died undelivered."

[3] "During expulsive efforts in labour, the left labium became greatly swollen, and burst '*avec une bruit*;' great loss of blood, syncope, and death in an hour." "L'enfant fût laissé dans le sein de sa mere, et trouva la mort ou il reçut la vie."—*Bull. Med. Belge*, vol. i. p. 90.

[4] "Four cases are here collected. One fatal; in a second, the swollen labium burst, the coagulum was removed, styptic powder introduced, (*plugging and pressure would have answered better,*) delivery of a dead child effected by the process, recovery; in a third, the labium burst whilst the forceps were being applied; the blood lost appeared arterial; pressure for three hours; delivery then of a dead child with forceps; recovery. In a fourth case, ten ounces of blood were removed from the labium by an incision, and labour was afterwards completed with safety to the child and mother."—*Heidelberger*, *Klinische Annalen*, vol. x. pp. 417—31. *Crosse.*

[5] "A woman near the conclusion of her third labour, observed a swelling of the labium, which diminished on her being blooded, but soon returned. This tumour burst during labour; between six and seven pounds of blood were lost; the patient fainted and expired. Delivery was speedily completed by the forceps."—*Kleinert's Repertorium*, May, 1835, p. 31.

[6] "Several cases (none fatal) are related in the Journal de Med. et de Chir. Prat., Oct. 1835.

[7] Edinburgh Med. and Surg. Journal, vol. xlv. p. 107.

[8] "But there is a difference between the two examples he (Dr. Macbride) relates and the one now under consideration; both the former appeared after delivery, the latter began during labour. and therefore we have thought proper to describe it, especially with a view to prevent the danger of mistaking it for the protrusion of the membranes of the fœtus distended by the waters

In general the tumefaction is sudden, increasing rapidly; but in a few rare cases it has been observed to grow more gradually. (Burns.)

The size varies very much; in some cases it is enormous—as large as a child's head. (Macbride.) As much as six or seven pounds of blood have escaped. (Schedel.)

Causes.—There can be no question that the effusion arises from the rupture of some vessel, by the pressure of the child's head during its passage through the pelvis; but there is some doubt from what vessels the blood escapes. The quantity is so great that it has been supposed impossible that it could proceed from the vessels supplying the part, which are ordinarily small; but it must be recollected, as previously stated, that these vessels are often in a varicose state during pregnancy.

Dr. Burns supposes some of the vessels in the nymphæ to be ruptured; Dr. Dewees, that the vessels of the vagina give way;[1] and Drs. Davis[2] and Campbell,[3] the pudic vein.

—a mistake which could not fail to occasion much confusion and groundless apprehension."—*Dr. Maitland's Case, Med. Comment.* vol. vi. p. 89.

Also, Davis's Obstetric Med. vol. i. p. 45, 46.

[8] "This accident, in every instance in which I have witnessed it, has taken place after delivery of the child, though not always immediately; but this is by no means constant; as we are informed by Drs. Maitland and Perfect, that the swelling occurred before the child was delivered. Dr. Maitland says, in his patient he found a soft tumour covering the os externum, very much resembling the distended membranes, which proved to be the right labium pudendi, distended to the enormous size of a child's head."—*Dewees's Diseases of Females*, p. 33.

[1] "I am of opinion that the blood proceeds from vessels situated rather within the vagina; for those which come from the vaginal plexus, immediately behind the corpus spongiosum, are the most likely to suffer during the passage of the child's head, and to furnish this large quantity of blood. And this opinion appears to be strengthened by cases in which the accident happens before the delivery of the child; as the part just mentioned will suffer distention before the head has escaped through the os externum."—*Dewees's Diseases of Females*, p. 34.

[2] "The sudden intumescence of the labia, from the accumulation of extravasated blood during labour, of which there are recorded some interesting examples, are probably in many cases indebted for their predisponent cause to a varicose condition of the veins, acquired during pregnancy; or, as perhaps more frequently happens, to the same condition of the various branches communicating with them. The more distended portion of those structures, having their tunics enfeebled in proportion to their distention during pregnancy, are obviously not a little exposed to the danger of a solution of their continuity, when they become the subjects of a still greater distention, which they can scarcely fail to do during labour of great severity. The vessels which more frequently give way in the extravasations here referred to, are probably portions of the pudic veins."—*Davis's Obstetric Medicine*, vol. i. p. 46.

[3] "The source of the effusion must be the pudic vein, ruptured possibly by premature distention of the part. In from three to seven hours, the labium gives way on its inner surface, when a quantity of coagula are discharged, and cicatrisation speedily takes place."—*Campbell's Midwifery*, p. 328.

Symptoms.—There is nothing in the character of the labour to excite alarm—the cases have almost always occurred with natural labours.

The patient's attention is first attracted by the swelling of the labia, and the feeling of weight and bearing down. If we examine at this period, we shall find one or both of the labia irregularly distended;[1] and if the tumefaction be great, the labium is everted, so that it appears to be covered by the mucous membrane. This has given rise to its being mistaken for the protruded membranes. The colour is livid, almost black, and the parts are extremely tender.

The tumefaction rapidly increases, until it covers the vulva and the perineum.

The pain is very great,[2] and goes on augmenting in proportion to the distention. A considerable degree of fever is excited, the pulse becomes quick, the skin hot, there is severe pain in the head, and delirium. The distress is often increased by retention of urine, from the swollen labium pressing upon the orifice of the urethra.

The patient lies on her back, scarcely able to move, and with the thighs widely separated. She cannot bear even the weight of the bed-clothes.[3]

After the lapse of a few hours, relief from the agony is obtained by the rupture of the labium, which always takes place on its inner surface, and the discharge of blood.[4] The mucous membrane is

[1] "Owing to the unequal density of the external covering and internal face of the labium, it becomes irregularly distended; and scarcely any thing is seen but its excessively stretched internal surface."—*Dewees's Diseases of Females*, p. 34.

[2] "In this disease of the *labia magna* in time of labour, we find in general that the swelling gradually increases to such a degree as to give excessive pain; and at length, when the tumour bursts, the pain immediately abates."—*Perfect's Cases*, vol. ii. p. 70.

[3] "Should the parts not give way, the pain arising from distention is unceasing and truly agonising; fever of a very active kind is quickly kindled; delirium sometimes attends, and the woman's life becomes severely threatened. Her sufferings are also augmented by the retention of urine, as its passage is prevented by the tumour pressing firmly against the meatus externus of the urethra. The patient can lie only upon her back, with her knees drawn up, and the thighs widely separated. She cannot bear the pressure of the bed-clothes, nor the lightest applications—therefore it is in vain to offer relief till the distended parts yield spontaneously, or are made to do so by artificial means."—*Dewees's Diseases of Females*, p. 38.

[4] "The internal lining of the labium gives way sometimes from the excessive distention it has been made to suffer; this permits a quantity of fluid blood or a few coagula to escape, which tends very much to diminish the extreme anguish of the patient. In all cases of this kind, much pain is endured, and in some cases it has been so severe as to cause syncope; a case of this kind is related by Dr. Reeve, in the 9th volume of the *London Medical Journal*. Sometimes the tumour bursts before the child is born. Dr. Perfect relates a case of this kind, and the first case related below may be considered a similar instance."—*Dewees's Diseases of Females*, p. 35.

observed to vesicate, and then to become gangrenous, after which, it yields to the pressure.[1] A portion of the blood escapes; but some coagula remain attached, and as these soon puetrefy, the wound becomes very offensive. By degrees, however, it is thrown off, or absorbed, and the wound heals.

This rupture sometimes takes place during the labour; and in such cases, as well as in those where it occurs before the blood is coagulated, the loss is sometimes so great as to occasion fainting, or even death.[2] (Crosse, Phillipart, Naegelè, jun., Schedel.) This is not always the case, however. Dr. Macbride's patient recovered speedily, notwithstanding the labium burst during labour.

When the distention is enormous, and occurs before the birth of the child, it may prove a very serious obstacle, requiring surgical interference for the preservation of the infant's life.

Diagnosis.—The tumour has been mistaken for—1, *hernia*—but the rapidity of its formation, its size, and its appearance, are so different, that a careful examination will at once decide the point.[3]

2. It is said to resemble the "*bag of the waters*;" and in Dr. Maitland's case it was punctured by the midwife under this supposition; but the bag of the waters can be isolated from the labia, and traced up to the os uteri, rendering the distinction easy. Moreover, in many cases the sanguineous tumefaction does not occur till after delivery.

Treatment.—As all the distress of the patient is attributable to the distention of the labium, the most direct means of relief is, evidently, to remove this by an incision into the swelling; but it would not be prudent to do so until a sufficient time has elapsed to allow the blood to coagulate. Meanwhile, the catheter may be

[1] "But if this bursting does not take place, as sometimes happens when the size of the tumour is not enormous, the internal face of the labium is sure to yield in a short time, from gangrene taking place through its whole extent. This condition has been preceded in two of the cases I have witnessed, by innumerable vesications, containing a yellowish serum, spreading themselves over the whole surface of the tumour, formed by the stretching of the internal membrane of this part, but which, very soon after the swelling has acquired a considerable size, yields from the loss of life; and the patient in consequence feels considerable relief. When the part sloughs, it exposes a large surface of coagulated blood, which quickly becomes decomposed, and yields a stench that is altogether intolerable."—*Dewees's Diseases of Females*, p. 35.

[2] "Three cases terminating in death, and one in recovery, are related in *Med. Chir. Review*, vol. xxii. p. 224."

[3] "This complaint has been mistaken for the distended and protruding membranes, and for a hernia; but a careful examination of the deranged part will soon remove these errors; for it exhibits neither the position nor the colour presented in either of these cases, with which it has been confounded. Its position is lateral, unless both labia are involved, in which case the natural sulcus must be observable; and its colour is that of extreme lividity, or entirely black, which resembles neither the membranes nor hernia."—*Dewees's Diseases of Females*, p. 34.

passed, and the urine drawn off. In some few cases it has been necessary to bleed from the arm, on account of the fever and general irritation.

After an hour or two has elapsed, a large incision may be made into the labium, and the blood allowed to escape.[1] The coagula which are adherent to the cellular tissue should not be disturbed, as the bleeding might be reproduced. A charcoal poultice may be applied; or a lotion of spirit and water, vinegar and water, chloride of lime, or any antiseptic. As the coagula separate, they should be removed, and the parts kept very clean, by washing with soap and water. This treatment is equally suited to those cases where rupture takes place spontaneously. If the bleeding continue after the incision, a compress of lint should be laid on the wound, and pressure applied.

The diet of the patient should be strictly antiphlogistic, so long as the fever continues; but after suppuration is established, it will be necessary to allow good diet, with wine and tonics.

The bowels should be kept free.

If the labium rupture during labour, our efforts must be directed to arrest the hemorrhage by pressure, cold and styptic applications, &c.; but if it do not burst, but by its size impede the exit of the child, we have no resource but to open the swelling, and guard against hemorrhage the best way we can.

CHAPTER V.

INFLAMMATION OF THE VAGINA. *Inflammation du Vagin*, Fr. *Entzündung der Mutterscheide*, G.

After an ordinary labour, whatever irritation or inflammation of the vagina may arise, speedily subsides, unless the irritation be kept up by an acrid discharge.

But when the second stage of the labour has been tedious, so that the head has remained a long time in the pelvis, pressing upon the soft parts; or when there has been a difficulty, from narrowness of the passage; or lastly, in malpresentations, and in all cases where an operation is required, the vagina is exposed to be attacked by severe inflammation.

[1] "Several advantages present themselves from making the incision just recommended: first, we may prevent sloughing, which is always desirable when these parts are concerned; secondly, the patient is quickly released from the excessive pain which constantly attends this complaint; thirdly, the extravasated and decomposing blood has a better opportunity to discharge itself, and consequently the progress of the cure is hastened; and fourthly, it will sooner allow of antiseptic applications, to correct the extreme fœtor of the putrefying coagula."—*Dewees's Diseases of Females*, p. 36.

Symptoms.—After the smarting pain caused by the distention of the parts has ceased, the patient complains of heat in the vagina and external parts: this is soon followed by pain and scalding. There is also a sense of fulness and weight in the pelvis. If we make an examination, we shall probably find the external parts swollen, and as it were bruised. On turning aside the labia, and gently dilating the vagina, it will be found thrown into large rugæ of a bright red colour. The heat is greatly increased, and the slightest touch gives acute pain. If the red lochia have ceased, we may find the discharge thickened and rendered opaque by a puriform secretion from the vagina, though at an *early* period, as is usual in inflammation of mucous membranes, there is but little discharge.

Terminations. 1. *In resolution.*—If the disease be detected early, and the proper remedies applied, it may subside quietly, without doing permanent mischief. The decrease of pain and soreness will be an evidence that it is thus terminating.

2. *In suppuration.*—If the inflammation be obstinate, we shall find, after some days, the mucous membrane converted into a sloughing surface. The extent of these sloughs will vary—they may be limited to the spots where the pressure has been most severe, or, as in a case lately under my care, they may involve the whole vagina. An internal examination will detect their extent, and when the sloughs separate, we shall find the canal denuded of mucous membrane to a greater or less degree. In general, the destruction does not penetrate deeply, except at the back of the bladder and the under surface of the urethra; and it is not uncommon to find an opening formed in these parts, which may occasion much trouble and distress. Sometimes, though less frequently, a recto-vaginal fistula is formed.

As the process of healing goes on in the denuded surface of the vagina, extremely troublesome cicatrices frequently form, consisting of irregular bands of firm tissue—disposed across the vagina, or in the form of circular or spiral rings. These cicatrisations diminish the calibre of the vagina, render sexual connection difficult, painful, or perhaps impossible, and materially impede the progress of labour, should the patient become pregnant subsequently.

It is only by the greatest care and watchfulness, during the healing of the sloughs, that these unpleasant consequences can be prevented.

3. *In gangrene.*—If the pressure have been very great, the parts most subjected to it may mortify and slough. When these sloughs separate, we may find a vesico-vaginal fistula,[1] and during

[1] "If, in consequence of the long pressure of the child's head, at that part of the vagina where its outward surface is attached to the back and under part of the bladder, the mortification affects the coats of the *vesica urinaria*, as well as those of the vagina, when the slough falls off, the urine will pass

the healing, circular cicatrices may form, as already described.[1] It is very seldom that the rectum is perforated.

Treatment.—In the inflammatory stage, the remedies must be antiphlogistic, varying in amount according to the intensity of the inflammation. It may be advisable to take some blood away from the arm, or to apply leeches to the vulva.

I have found tartar emetic, in combination with a saline purgative, of great use. It should be given so as to nauseate the patient, without producing vomiting.

The external parts should be well fomented two or three times a-day, and during the intervals, a large poultice may be applied over the vulva. Two or three times a-day also, the vagina should be syringed with tepid milk and water, or a weak solution of the acetate of lead.

After the sloughs have separated, a careful examination should be made every second day, to ascertain the progress of healing; and when the surfaces begin to be covered with new membrane, we must take measures for preventing the formation of cicatrices. This can only be done by the repeated introduction of bougies, and the best kind are tallow or wax candles. At first a small-sized one should be oiled and introduced, night and morning, and allowed to remain a quarter of an hour. Afterwards, as the tenderness diminishes, the size of the candle should be increased, and it should be introduced oftener and retained longer. The warm injections should be continued, and the milk and water may be changed for some slightly astringent fluid. If this plan be carefully and steadily pursued, we shall, in most cases, prevent the narrowing of the vagina. In the case under my care already alluded to, the sloughing was most extensive, yet by these means the vagina has healed, with a perfectly smooth surface.

The treatment necessary for the vesico-vaginal or recto-vaginal fistula, will be described when speaking of "lacerations."

If the patient be much exhausted, tonics and good diet will be necessary, after the inflammation has been subdued.

that way, and hinder the opening (if large) from being closed."—*Smellie's Midwifery*, vol. i. p. 246.

[1] "If the pressure hath been so great as totally to obstruct the circulating fluids in those parts, a mortification ensues—either total, by which the woman is soon destroyed, or partial, when the mortified parts separate, and cast off in thick sloughs, then digest, and are healed as a common sore—provided the patient be of a good habit of body: but if the opposite parts are also affected in the same manner, and both sides pressed together, as for example in the *uterus*, *os internum*, *vagina*, or *os externum*; or if the internal membrane of the whole inner surface sloughs off, then there is danger of a coalescence, or growing together, by which callosities are formed."—*Smellie's Midwifery*, vol. i. p. 246.

CHAPTER VI.

PUERPERAL FEVER. *Fièvre puerperale*, Fr. *Puerperal fieber. Kindbett-fieber*, G.

This is, perhaps, the most fatal disease to which puerperal women are liable, and it is by no means infrequent.

Its phenomena vary very much, and it has consequently been differently described, and under various names—(Puerperal Fever, Childbed Fever, Peritoneal Fever, Low Fever of Childbed, &c.) —by different authors.

Another source of apparent contrariety has been the prevalence of the disease epidemically, and the varying characteristics of these epidemics. Unfortunately the uniformity of the disease was assumed, until comparatively recent times; and, as Dr. John Clarke observes, each author erected his own experience into a standard, by which to judge of the descriptions and practice of others.

A slight notice of the literary history of the disease, and of the different epidemics, may very well precede a more detailed description.

According to Dr. Hulme's researches, the older writers were not ignorant of this disease. It is described by Hippocrates and Avicenna. Plater (1602) makes it to consist in inflammation of the uterus. Sennert (1656) describes it, and recommends bleeding. Riverius (1674) attributes it to suppression of the lochia, and Sylvius (1674) to deficiency of the lochia. Willis (1682) takes the same view of its nature as Plater.

The earliest English work on midwifery is that of Thos. Raynalde, who, in his Birth of Mankinde, 1634, says, "It is also to be understood, that many times after the deliverance, happeneth to women either the fever, or ague, or inflammation of the body; either trembling in the belly, or else, commotion; or setting out of order of the mother or matrix."—p. 120.

Dr. John Peachey, in the Compleat Midwife's Practice Enlarged, (1698, 5th Ed.) does not refer to this disease distinctly, though he seems aware of it.

In the Child-bearer's Cabinet, 1653, chap. xvi. we have directions how to help the wringings and pressings of the belly in childbed women, by outward and inward means, and drinks.

Strother, in his Work on Fevers, (1716,) describes it, and was the first who gave it the name of puerperal fever.

Mrs. Jane Sharp, in her Compleat Midwife's Companion, (4th Ed. 1795,) treats of fevers after childbirth.

The disease is not mentioned by Giffard, (1734;) Chapman, (1735, 2d Ed.;) Memis, (1765;) Exton, (1750;) or Pugh, (1754.)

Cooper, Compendium of Midwifery, (1766,) speaks of fever arising from suppression of the lochia.

Dr. Denman was, I believe, the first to publish a distinct essay upon the subject, which he did in 1768, and which was the first reference to epidemic puerperal fever. The form he describes was inflammation of the peritoneum; and amongst other remedies he gave tartar emetic.

In the year 1760 (which is about eleven years after the first institution of lying-in hospitals in England), the puerperal fever was epidemical in London. From the 12th of June till the end of December, Dr. Leake informs us that twenty-four women died of it in the British Lying-in Hospital.[1]

"A gentleman, whose veracity I can depend on, informs me that he attended a small private Lying-in Hospital in London, in the latter end of May, June, and the beginning of July, 1761; during which time the puerperal fever was very fatal there—that to the best of his recollection they lost about twenty patients in the month of June; that during this month he himself delivered six women in a short time, in the hospital, of natural births, and they all died."[2]

Dr. Burton (1769), attributes inflammation of the womb to suppression of the lochia, and recommends venesection.

In the year 1770, puerperal fever was very fatal in the London hospitals.

In the Westminster Hospital, between November 1769, and May 1770, sixty-three women were delivered, nineteen had puerperal fever, and fourteen died. (Leake.)[3]

In the British Lying-in Hospital, eight hundred and ninety were delivered, and thirty-five died. (White.)

In a third hospital, not named by Mr. White, two hundred and eighty-two were delivered in 1771, and ten died.[4]

In 1772 Dr. Hulme published a Treatise on the puerperal fever, in which he describes an epidemic, and attributes it to inflammation of the omentum.

This was shortly followed by Dr. Leake's Work on Diseases of Women, in vol. ii. of which, he describes puerperal fever, taking the same view as Dr. Hulme; and giving statistics of the frequency and mortality.

He says that from Dec. 13, 1768, to Dec. 12, 1769, one hundred and eighty women died.

From December 12, 1769, to December 11, 1770, two hundred and seventy women died.

From December 11, 1770, to December 10, 1771, one hundred and seventy-two women died.

[1] Leake, on Childbed Fever, last page.
[2] White, on the Management of Lying-in Women.
[3] Leake, on Childbed Fever, p. 241.
[4] White, on Lying-in Women, p. 337.

Dr. William Hunter was in the habit of informing his pupils, that of thirty-two patients who were attacked with the disease during two months, only one recovered. "We tried various methods. One woman we took from the beginning, and bled her, and she died. In another, we gave cooling medicines, and she died. In a third, we gave confect: aromat: and other cordials and stimuli, and she also died."

In the year 1773, the puerperal fever appeared in the Lying-in Ward of the Royal Infirmary, Edinburgh; and is thus described by Professor Young: "It began about the end of February, when almost every woman, as soon as she was delivered, or perhaps about twenty-four hours after, was seized with it; and all of them died, though every method was used to cure the disorder. This disease did not exist in the town."[1]

"In 1814–15, it visited the Lying-in Hospital of this city; and of nine who were taken ill, only one recovered."[2]

Dr. Moor, in his book on Midwifery, (1777), has a section on puerperal fever, which he considers to be inflammation of the abdominal viscera, as well as of the omentum, at least in bad cases.

Dr. Foster, (1781,) and Mr. Dease, both treat of it. The latter mentions that the first epidemic in Dublin occurred in the year 1774.

Dr. Kirkland, in 1775, published a treatise on childbed fevers; he seems to ascribe the cause of the puerperal fever chiefly to an irritable state of the uterus, its inflammation, and to an absorption of putrid blood from this part.

Dr. Hamilton, sen., of Edinburgh, (1784,) does not mention it: but Dr. Spence, of the same city, (1784,) in his System of Midwifery, has a chapter upon it.

Dr. Butler, in 1775, published an account of the puerperal fever. After giving the general description of the disorder, he concludes that the proximate cause of the puerperal fever is a spasmodic affection of the first passages, together with a morbid accumulation there.

Puerperal Fever is noticed in Manning's Diseases of Females, 1775.

Dr. Jos. Clarke, (then Master of the Lying-in Hospital in this city,) published an account of the puerperal fever in 1791, in the *Med. Comment.* vol. xv. He says:—"The puerperal fever first visited the Lying-in Hospital of Dublin in the year 1767, about ten years after it was first opened for the reception of patients. From the first of December till the end of May, of three hundred and sixty women delivered, sixteen died.

"Seven years afterwards, this fever re-appeared. Of two hun-

[1] Dr. Jos. Clarke's Essay in Med. Comment. vol. xv.

[2] Mss. Notes of Professor Hamilton's Lectures for 1816–17–18.—*Campbell's Midwifery*, p. 17.

dred and eighty women delivered during the months of March, April, and May, in the year 1774, thirteen died.

"From the year 1774, till the year 1787, this fever was unknown as an epidemic in Dublin. From the 17th of March in this year, till the 17th of April, one hundred and twenty-eight were delivered in the hospital; eleven of whom were seized with symptoms of puerperal fever, and seven died.

"In November, 1788, the same fever appeared for the fourth time, since the institution of the hospital. During this, and the two succeeding months, three hundred and sixty-five women were delivered, seventeen were attacked by the fever, and fourteen died.

"The disease corresponded with the London epidemic described by Dr. Hulme, and the appearances, on dissection, were those of peritonitis. In no instance did the appearance of inflammation seem to penetrate deeper than the peritoneal coat on any of the viscera of the abdomen or pelvis."

In 1795, Dr. Gordon, of Abderdeen, published an Essay on puerperal fever, describing an epidemic which occurred in that city.

"The disease made its appearance at Aberdeen, in December, 1789, and prevailed as an epidemic among lying-in-women till the month of March, 1792, when it finally ceased. This epidemic seemed in every respect to answer the description of the puerperal, or childbed fever, on which many authors have written, particularly Drs. Hulme, Denman, and Leake."

"In my practice, of seventy-seven women who were attacked with the puerperal fever, twenty-eight died—so that very near two-thirds of my patients recovered."[1]

In 1793, Dr. John Clarke, of London, published a valuable little work on the Management of Pregnancy and Labour, &c. in which he described the epidemic of 1787 in London, and spoke of several forms of the disease, such as

1. Inflammation of the uterus and ovaries.
2. Peritonitis.
3. Local inflammation connected with inflammatory affection of the system.
4. Affections of the uterus from portions of the placenta left behind.
5. Low fever of childbed.

Mr. Dun has described an epidemic of puerperal fever at Halloway, near London, in the year 1812.[2]

In 1814, Dr. Armstrong published an account of an epidemic of puerperal fever, which prevailed during 1813, in the counties of Durham and Northumberland, and especially at Sunderland, where he then resided. It appears to have closely resembled the Aberdeen and Leeds epidemic, and to have chiefly consisted in an inflamma-

[1] Gordon's Essay, pp. 1, 42.
[2] Ed. Med. and Surg. Journal, vol. xii. p. 36.

tory affection of the peritoneum, with more or less fever. In all, forty-three cases occurred, and five terminated fatally.

Mr. Hey published an essay on puerperal fever in 1815, and he states that an epidemic of puerperal fever commenced at Barnsley, in Yorkshire, in 1808, and at Leeds in November, 1809—continuing in the latter town till Christmas, 1812. It presented exactly the same characters as that described by Dr. Gordon, and was coincident with an epidemic of erysipelas.

Dr. Burns, in his Principles of Midwifery, makes three varieties of puerperal fever, viz.—inflammation of the uterus—peritonitis—and malignant puerperal fever.

Puerperal fever was epidemic in the Lying-in Hospital of Edinburgh in 1821–2; but the mortality is not known. (Campbell.)

Dr. Douglas, of this city, published a notice of puerperal fever, in the Dublin Hospital Reports, vol. iii. (1829,) drawn chiefly from his experience of the epidemic which prevailed in the Great Britain-street Lying-in Hospital, during the years 1810–11.

In 1822, Dr. Campbell published his essay on puerperal fever, describing the epidemic in Edinburgh.

"It was in the latter end of March, 1821, when the weather was extremely changeable, accompanied with sudden variations of temperature, that the first case occurred in my practice. From this period, until the early part of September, 1822, when the last cases occurred, we delivered 789 patients, of whom seventy-nine were affected with the epidemic, in various degrees of violence, and twenty-two died. During the dry warm months, the disease subsided considerably; and from the 16th of July, to the 14th of October, 1821, we had only six cases. At this time the epidemic was not so fatal, for although two of the six fell victims to it, one of them was past recovery when we were first sent for. After the last of these dates, the cold, rainy weather set in, and with it the disease returned. It was now more frequent and fatal than formerly; for in less than two months we had no fewer than twenty-six cases, of which number eight died. In the warm months of 1822, similar to what happened in the former year, the disease became less frequent, and assumed a milder character; and of all the cases which occurred from the latter end of April, until the early part of September, none proved fatal. During the above period, the puerperal fever was very fatal at Stirling, and other country towns; in Glasgow particularly, it committed great ravages."[1]

In 1822, also, Dr. Mackintosh, of Edinburgh, published his essay on puerperal fever, in which he speaks of it as an inflammatory affection of the peritoneum, and recommends free bloodletting, and antiphlogistics.

Dr. Hamilton, Jun. in his Outlines of Diseases of Females, 1824, describes malignant childbed fever, as a disease "sui generis."

Dr. Dewees, of Philadelphia, U. S. in his work on Diseases of

[1] Campbell on Puerperal Fever, p. 17.

Females, 1827, describes simple hysteritis—hysteritis with puerperal—and puerperal fever.

He says: "In this country, this disease very rarely presents itself as an epidemic; the only record of this kind that offers itself to my recollection at this moment, is that of Dr. Jackson. He says it prevailed both in Northumberland and in Sunbury, in this state (Penn.) in the fall of 1817, and in the spring of 1818; and though treated with both vigour and ability, about one half died."[1]

Dr. Gooch's classical work on Diseases of Women, was published in 1829; and in it he describes two forms of puerperal fever—one resembling the Aberdeen epidemic; and the other much milder, and more manageable.

In 1833, Dr. Lee's valuable work on the more important Diseases of Women[2] appeared, containing copious details upon the various forms of this disease.

"From the 1st of January, 1827," he says, "to 1st of October, 1832, 172 cases of well-marked puerperal fever came under my immediate observation in private practice and in the British Lying-in Hospital, and other public hospitals in the western districts of London." "Of fifty-six cases which proved fatal, the bodies of forty-five were examined, and in all were found some morbid changes, decidedly the effect of inflammation, either in the peritoneal coat of the uterus, or uterine appendages, in the muscular tissue, in the veins, or in the absorbents of the uterus—accounting in a most satisfactory manner for the constitutional disturbance observed during life. The peritoneum and uterine appendages were found inflamed in thirty-two cases; in twenty-four there was uterine phlebitis; in ten there was inflammation and softening of the muscular tissue of the uterus; and in four, the absorbents were filled with pus."

Details more or less copious will be found in recent works on midwifery; Blundell, 1831; Ashwell, 1834; Ramsbotham, &c.

Dr. Cusack published a valuable paper on puerperal fever in the *Edinburgh Medical and Surgical Journal*, No. 98.

Mr. Ceely, of Aylesbury, has described an epidemic which occurred in that city and neighbourhood in the year 1831.[3]

Dr. Collins, in his excellent Practical Treatise on Midwifery, (1835,) p. 380, gives an account of the puerperal fever as it occurred in the Lying-in Hospital in this city.

"Puerperal fever," he says, "first became epidemic in the Lying-in Hospital of Dublin, in the year 1767, about ten years after the institution was established; since which time it has been epidemic in the following years:—1774, 1787, 1788, 1803-10-11-12-13-18-19-20-23-26-28, and 1829. The mortality in some of these attacks was not great, and in others the contrary. In the year preceding my appointment as master, which took place in Novem-

[1] Dewees, Diseases of Females, p. 380.
[2] Lee, on Diseases of Women, p. 3.
[3] Lancet, March 7, 1835.

ber, 1826, puerperal fever prevailed in the hospital to an alarming extent. In the succeeding year, 1827, the mortality from the disease was slight. Typhus fever was, during these periods, very prevalent in Dublin, many cases of which appeared in the hospital. In 1828, the attack of puerperal fever was much more severe, proving fatal to twenty-one women. It continued to increase in violence considerably, in the months of January, February, and the early part of March, 1829, after which it disappeared, and for the four remaining years of my mastership, we did not lose a single patient from this disease."

A very good resumé of the different opinions upon puerperal fever, will be found in Mr. Moore's prize essay, published in 1836.

In Dr. Beatty's Second Report of the Cumberland-street Lying-in Hospital, in this city, from July, 1835, to August, 1837, he says:—"The hospital was visited by this terrible malady twice during the period embraced by the present report. Both attacks took place in the month of January, and at each time erysipelas was raging as an epidemic in the surgical hospitals, and diseases of a typhoid type were very prevalent in this city."[1] Dr. Beatty lost eight patients out of thirteen.

About the same time I saw several patients similarly attacked; but the epidemic did not enter the Western Lying-in Hospital.

Dr. Evory Kennedy informs me, that during his mastership, puerperal fever has been occasionally prevalent in the Lying-in Hospital, Great Britain-street.

In 1839, Dr. Ferguson published the first of a valuable series of Essays on the more important Diseases of Women; "On Puerperal Fever," founded on 204 cases occurring at the General Lying-in Hospital, during the previous twelve years, of whom sixty-eight died. He divides the disease into four varieties—1, the peritoneal; 2, the gastro-enteric; 3, the nervous; and 4, the complicated.

It will be seen that I have not scrupled to avail myself of the information afforded by any of these writers; but I would especially acknowledge my obligations to Drs. Lee and Ferguson.

Amongst the early French midwifery authors, the disease was known, but not as an epidemic: thus

Viardel, 1774, "Obs. sur la pratique des Accouch. naturels," &c. speaks of cold giving rise to inflammation and gangrene of the uterus.

Peu, 1694, "La pratique des Accouchemens," speaks of inflammation of the abdomen, caused by retained placenta, and relates cases.

Jacques Mesnard, 1753, "Le Guide des Accoucheurs," describes inflammation of the uterus.

F. A. Deleurye, 1770, "Traité des Accouchemens," treats of "depots laiteux" in different parts of the body and uterus.

The first epidemic on record in France, I believe, is that of 1746,

[1] Dublin Journal, vol. xii. p. 297.

"The winter of 1746 at Paris,[1] was most destructive to puerperal women, and they died between the fifth and seventeenth day after their confinement. The epidemic attacked the indigent, but much less frequently those delivered at their own habitations, than in the Hotel Dieu. Of twenty women in childbed, affected with the disease in February of that year, in the Hotel Dieu, scarcely one recovered."

M. Malouin thus describes the epidemic of 1746: "The disease usually commenced with a diarrhœa; the uterus became dry, hard, and painful; it was swollen, and the lochia had not their ordinary course; then the woman experienced pain in the bowels, particularly in the situation of the broad ligaments; the abdomen was tense; and to all these symptoms were sometimes joined pain of the head, and sometimes cough. On the third and fourth day after delivery, the mammæ became flaccid. On opening the bodies, curdled milk was found on the surface of the intestines, a milky serous fluid in the hypogastrium; a similar fluid was found in the thorax of certain women, and when the lungs were divided, they discharged a milky or putrid lymph. The stomach, the intestines, and the uterus, when carefully examined, appeared to have been inflamed. According to the report of the physicians, there escaped clots on opening the vessels of this organ." (Lee.)

Jussieu also describes the epidemic of 1746; inflammation of the stomach, intestines, and uterus, was discovered, with suppuration of the ovaries.

"In 1750, an epidemic attacked many puerperal women, which was characterised by severe abdominal pain, and tumefaction of the hypogastrium. On examining the bodies of two of these women, Pouteau states that the uterus was found very large, the internal membrane was soft and black, and the substance of the parietes was of a livid red colour, and in a gangrenous state." (Lee.)

In 1774, an epidemic attacked the puerperal women in the Hotel Dieu, Paris, and committed the greatest ravages. It re-appeared every winter, till 1781. These facts are stated by M. Tenon, who also states, that all women seized with this epidemic die, and that of twelve, seven are frequently attacked; so that "L'Hotel Dieu perd quelquefois plus de la moitié des femmes qui y vont accoucher." (Dr. Jos. Clarke.)

"Thus, the epidemic of 1746 was characterised by the suppression of the lochia; whereas, in that of 1774, the lochial discharge deviated little or nothing from its natural condition. Hemorrhagies occurred in the epidemic of 1764, and the uterus was not found to be dry, hard, and tumefied, as in that of 1746; yet the disease was equally fatal in each instance." (Moore.)

M. Tenon has given a graphic description of this epidemic,[2] which has been partly translated by Dr. R. Lee.

[1] Memoirs sur les Hôpitaux de Paris, p. 243. Lee, p. 6.
[2] Mem. sur les Hôpitaux de Paris, p. 243. See p. 6.

In 1812, M. Gastellier published a treatise upon puerperal peritonitis, and its varieties.

Capuron, 1824, "Maladies des Femmes," speaks of puerperal peritonitis as the only form of puerperal fever.

Gardien, 1826, "Traité des Accouchemens," describes puerperal peritonitis, with certain complications, as constituting puerperal fever.

More recently, the labours of Andral, Luroth, Dance, Tonnelle, and Dupley, have thrown much light upon the true pathology of this disease.

"In the epidemic of 1829, at Paris, numerous opportunities occurred of examining the morbid appearances in those who were cut off by the disease. In 132 out of 222 fatal cases, puriform fluid was found in the veins and absorbents of the uterus; and in 197 some important alterations of structure were found in the uterine organs." (Tonnelle, Lee.)

L. I. Boer, of Vienna, (1790), published three valuable essays upon puerperal fever, in his work, "Die Natürliche Geburtshülfe," vol. 1 and 2, in which he notices the peritoneal disease, and some secondary affections.

Osiander, in his "Denkwürdigkeiten für die Heilkunde und Geburtshülfe," vol. 1, 1792, relates two fatal cases of puerperal fever, which occurred in the Lying-in Hospital at Göttingen, and in the second volume mentions its occurrence.

In Osiander's Neue Denkwürdigkeiten, &c. vol. i. part 2, Dr. Jaeger has given an account of a very fatal epidemic which prevailed in the Lying-in Hospital at Vienna in the year 1795. The local diseases were peritonitis, hysteritis, and gangrene of the inner surface of the womb.

Another epidemic occurred at Vienna in 1819.

"The bodies of fifty-six women were examined, who had died of puerperal fever in the General Hospital at Vienna, in the autumn of 1819; and in all of these, with the exception of two, where delivery had taken place a considerable time previous to death, effusions of sero-purulent fluid were found in the abdominal cavity, and traces of inflammation in one or more of the abdominal viscera. The ovaries and fallopian tubes were always more or less swollen, red, and tender; and the body of the uterus was, in consequence of inflammation, flabby, tender, and easily broken down with the finger. It is also stated in this report that the accession of fever is always preceded by marked changes in the whole system, particularly in the uterus, clearly indicating an inflammatory state."[1]

The disease is noticed by Carus, "Gynæcologie," 1828; Froriep, "Die Geburtshülfe," 1832; Siebold, "Frauenzimmerkrankheiten," 1821; Joerg, "Krankheiten des Weibes," 1832.

A report of the secondary Midwifery Institution at Vienna, by Dr. Bartsch, was published in the *Lancet*,[2] in which it is stated,

[1] Medical Annals of the Austrian States, 1822. Lee, p. 8.
[2] Lancet, April 16th, 1836.

that of 2,218 women delivered at that institution between October 15th, 1833, and December 31st, 1834, 175 had puerperal fever, of whom 109 died. In this report, puerperal fever is distinguished from peritonitis and metritis.

"The cases of puerperal fever, occurred seldom under the form of puerperal peritonitis, but generally as inflammation of the uterine veins, giving rise to the production of pus in these vessels, and the general symptoms accompanying its absorption."

From the preceding slight sketch, it is evident that the disease prevails more extensively, and is more virulent in hospitals. It is every where more frequent among the lower classes than the higher.[1] In Dublin this is even more remarkably the case than in London.[2]

That the cause of the prevalence in lying-in hospitals is the number of patients in a ward,[3] the want of proper ventilation,[4] and the too rapid succession of fresh patients before the wards have been properly cleansed, is rendered almost certain by the success which has followed attempts at remedying this evil.[5]

These four points—isolation of patients, cleanliness, ventilation, and allowing the ward in which the disease has appeared, to be idle for a while, are the chief means of guarding against the disease in hospitals; and in private practice, we can do little more than has been laid down in the Rules for the Management of Lying-in Women.

[1] "In this country, the disease seldom attacks individuals in the better ranks of society. It occurs chiefly among the lower classes, who inhabit confined apartments, in narrow, dirty, ill-ventilated lanes."—*Hamilton, Diseases of Females*, p. 198.

[2] "In private practice among the higher classes in Dublin, puerperal fever, accompanied by the low typhoid symptoms, so prevalent in hospitals, is scarcely known. The late Dr. Joseph Clarke informed me, that in the course of forty-five years' most extensive practice, he lost but *four* patients from this disease."—*Dr. Collins's Pract. Treatise on Midwifery*, p. 380.

[3] "I am afraid no methods will be effectual where several lying-in women are in one ward. It will be very difficult to keep the air pure, dry, and sweet, and at the same time to accommodate the heat of the ward to their different constitutions and symptoms. If separate apartments cannot be allowed to every patient—at least, as soon as the fever has seized one, she ought immediately to be moved to another room, not only for her immediate safety, but for that of the other patients. Or it would be still better, if every woman were delivered in a separate ward, and were to remain there for a week or ten days, till all danger from this fever was over."—*White, on Lying-in Women*, p. 173.

[4] "I am well informed, that this fever and obstruction occur more frequently in the lying-in hospitals than in private practice. What can this arise from but the different states of air? This, in my opinion, is the cause; for though very great care is taken in those hospitals, yet, as the apartments and furniture will imbibe some of the morbid effluvia arising from the patients, the air must always be more or less tainted."—*Johnson's Midwifery*, p. 253.

[5] "Every symptom of fever subsided, as our patients were received into clean wards. Of 150 admitted after our refit, scarcely one had any serious illness."—*Dr. John Clarke, Med. Comm.* 1791, p. 318.

For the purpose of giving a more distinct view of the prevalence of puerperal fever, I have made out (as accurately as possible) a chronological list of the different epidemics, with the names of the authors by whom they are noticed or described, and the pathological characteristics described when ascertained.

DATE OF EPIDEMIC.	PLACE.	AUTHOR.	LOCAL AFFECTION.
1664	Paris	Peu (Leu)	
1746	Paris	Malouin	Peritonitis, Hysteritis, &c.
		Jussieu	Disease of Ovaries.
1750	Lyons	Doulcet	Peritonitis, U. Phlebitis.
1750	Paris	Pouteau	Hysteritis erysipelatous.
1760	London	Leake	Inflam. of Omentum, &c.
1760–61	Aberdeen	Gordon	
1761	London	White	Peritonitis.
1767	Dublin	Jos. Clarke	
1770	London	Leake	Peritonitis (Partial.)
1771	London	White	
1773	Edinburgh	Young	
1774 to 81	Paris	Tenon, Doulcet, &c.	
1774–87, 88	Dublin	Jos. Clarke	Peritonitis.
1782	Paris	Doulcet	Peritonitis, Hysteritis.
1783	London	Osborn	Peritonitis.
1795	Vienna	Dr. Jaeger	Peritonitis, Phlebitis.
1786	Paris	Tenon	
1787	Göttingen	Osiander	
1788	London	Jos. Clarke	Hysteritis, Peritonitis, &c.
1787–8	London	Do.	Peritonitis, Hysteritis, &c.
1789–90, 91, 92	Aberdeen	Gordon	Peritonitis.
1803–10, 12, 13	Dublin	Collins, Douglas	Peritonitis.
1808	Barnsley, Yorksh.	Hey	Peritonitis.
1812–13	Leeds, Yorkshire	Hey	Peritonitis.
1813	Sunderland, counties of Durham & Northumberland	Armstrong	Peritonitis.
1811	Heidelberg	Naegelé, Bayrhoffer	
1812	Holloway, London	Dun	Peritonitis.
1814–15	Edinburgh	Hamilton	
1816	Paris	Tenon	U. Phlebitis, Hyster. Perit.
1817–18	Pennsylvania, U. S.	Dewees	Peritonitis.
1818–19, 20–23	Dublin	Collins	Peritonitis.
1819	Vienna	Boer	
1819	Glasgow	Burns	
1821–22	Edinburgh	Campbell	Peritonitis.
1821–22	Glasgow, Stirling	Campbell	Peritonitis.
1827–28	London	Gooch	Peritonitis.
1827–28, 29	London	Ferguson	Peritonitis, Hysteritis.
1835–36–38	London	Do.	Phlebitis, &c.
1825–27, 28, 29	Dublin (Lying-in Hospital)	Collins	
1829	Paris (Maternité)	Tonnellè	Inflam. of Peritoneum, Uterus and appendages, and Uterine Phlebitis.
1829–40, occasionally	Dublin (Lying-in Hospital)	E. Kennedy	
1831	Aylesbury	Ceely	
1833–34	Vienna	Bartsch	Uterine Phlebitis.
1836–37	Dublin (new Lying-in Hospital)	Beatty	Peritonitis, Pleuritis, &c.

13 *church*

An examination of the foregoing table will render it no matter of surprise that authors should differ as to the *pathology* of this affection; and as each appears to have regarded his own experience as a standard for all, we cannot wonder at, though we must ever regret, that various and bitter controversies should have arisen in consequence. It would occupy far too much time to enter upon the various arguments adduced by different writers in favour of their own views; it will be quite sufficient to enumerate the opinions, and to classify the authorities, referring the reader to the various sources of minute information already quoted.

Puerperal fever, then, has been regarded as

Inflammation of the Uterus,[1] by

Hippocrates,
Galen,
Celsus,
Ætius,
Paulus Avicenna,
Raynalde,
F. Plater,
Sennert,
Riverius,
Sylvius,
Strother,
Mauriceau,
La Motte,
Sydenham,
Böerhaave,
Van Swieten,
Hoffmann,
Jussieu,
Villars,
Astruc,
Pouteau,
Denman.

Inflammation of the Omentum and Intestines, by

Hulme,
Leake,
La Roche.

Peritonitis, by

Waller,
Johnston,
Forster,
Cruikshank,
Bichat,
Pinel,
Gardien.
Capuron,
Gordon,
Hey,
Armstrong,
Clarke,
Campbell,
Collins.

Peritonitis, connected with Erysipelas, or of an Erysipelatous character,[2] by

Pouteau,
Home,
Lowder,
Young,
Abercrombie,
Gordon,
Armstrong,
Hey,
Campbell.

[1] Campbell, on Puerperal Fever, p. 21.

[2] At the time of the prevalence of puerperal fever described by many of these authors, there was also an epidemic of erysipelas.

Fever of a peculiar nature, by

Willis, Doublet,
Puzos, Hamilton.
Levret,

Disorder of a putrid character, by

Peu, Le Roi,
Tissot, White.

Disease of a complicated nature, by

Petit, Tenon,
Sellè, Tonnelè,
Kirkland, Lee,
Walsh, Ferguson.

Fever, with Biliary disorder, by

Finch,
Stoll,
Doulcet.

Various are the *causes* assigned by different authors, for the production of this disease.

"We also find fever after parturition ascribed to difficult labour;[1] to inflammation of the uterus;[2] to accumulation of noxious humours, set in motion by labour;[3] to violent mental emotion, stimulants and obstructed perspirations;[4] to miasmata; admission of cold air to the body, and into the uterus; to hurried circulation; to suppression of lacteal secretion; diarrhœa;[5] liability to putrid contagion, from changes in the humours during pregnancy;[6] hasty separation of the placenta; binding the abdomen too tight;[7] sedentary employment; stimulating, or spare diet; fashionable dissipation; retained portions of placenta; floodings, from non-contraction, according to one;[8] from violence, but not from non-contraction, according to another;[9] to inflammation of the intestines and omentum; from the pressure of the gravid uterus against them;[10] to atmospheric distemperament; to internal erysipelas; metritis, phlebitis; and to contagion of a specific kind. It will be seen that some of the symptoms of the malady are mistaken for causes."[11]

[1] Of 114 cases in the Dublin Lying-in Hospital, in 1819 and 20, sixty-eight were first labours; but they were not remarkable.

[2] F. Plateri Praxis Med. 1686, vol. ii. ch. 12. Hoffmann, 1734, vol. iv. part 1. sec. ii. ch. 10. Burton, 1751. Essay on Midwifery, part 4. Smellie, Tissot, Kirkland, p. 58. Denman. Broussais, prop. 313, &c. &c.

[3] Sennerti Opera, vol. iii. part 2. Celsus, B. ii. ch. 5.

[4] T. Cooper, 1766. Comp. of Midwifery, part iii. sec. 3. Dr. Leake, vol. ii. part 33.

[5] R. W. Johnson, 1769, New System of Midwifery, part iv. ch. 7.

[6] J. Millar, 1770, Obs. of Prevailing Diseases, part iii. ch. 2.

[7] H. Manning, 1771, On Female Diseases, ch. xx.

[8] Mr. Hey.

[9] Dr. Armstrong, p. 48.

[10] Dr. Hulme, p. 147.

[11] Moore, On Puerperal Fever, p. 113.

We cannot regard difficult labour as a frequent cause,[1] though the condition in which the woman is left, will undoubtedly render her more obnoxious to the epidemic. Mental emotion is undoubtedly an efficient predisposing cause. Under its influence, females are peculiarly exposed to puerperal fever, and are rendered less able to bear it.[2] Several of the worst cases I have ever seen were evidently attributable to this cause. Cold may be fairly admitted into this list. Whether portions of placenta remaining in the uterus, give rise to this disease, is as yet doubtful; I am inclined to think they may, but it is difficult to decide between the conflicting evidence.

Irritation of the intestines may certainly be propagated to the neighbouring tissues, and under the influence of an epidemic may originate puerperal.

That hemorrhage during or after labour does not prevent puerperal fever, there is abundant proof; but that it renders the patient more liable to it, may be questioned.

To a certain extent, atmospheric influence has a control over the disease; in damp, moist weather, it is much more prevalent, and less so in warm dry weather.

[1] "Most of our patients attacked in the year 1717, were admitted in a weakly state, or had tedious and fatiguing labours. Four of those who died were cases of first children."—*Dr. Jos. Clarke's Essay, Med. Comm.* 1791, p. 311.

"It did not seem to depend upon difficulty of labour, for in most of the women in whom it occurred, parturition was remarkably easy, and the placenta was separated after a proper interval, and without more than usual pain. Nor was the lochial discharge, *before* the attack, in any way apparently affected."—*Armstrong, on Puerperal Fever*, p. 2.

"*Forty-four* of the eighty-eight cases of puerperal fever occurred in women who had given birth to *first* children; *sixteen* with second children; *nine* with third; *six* with fourth; *seven* with fifth; *two* with seventh; and *four* with eighth children. *Thirty* of the forty-four women delivered of first children, died. Fifty-four of the eighty-eight gave birth to male children." "Of eighty-eight cases, *seventy-one* were delivered within twelve hours; *eighty* within twenty-four hours; *one* was an arm presentation; the length of the labour in three instances was not noted."—*Collins, Pract. Treat.* p. 384.

[2] "The unmarried are most subject to this fever."—*Home, Chir. Exp.* p. 83.

"Women of delicate constitutions, who are very susceptible, and continually agitated by hopes and fears, are, of all others, the most subject to it, and recover with the greatest difficulty: consequently, unmarried females, for obvious reasons, are very apt to be seized with it."—*Leake*, p. 40. "Unfortunate single women are much oftener seized with it than the married."—*John Clarke*, p. 145. "It is well known, that unmarried women do not recover so well as married ones—the mental irritation necessarily attendant upon their situation, considerably increasing the febrile excitement, rendering them extremely restless, and thus augmenting the danger."—*Armstrong*, p. 37. "In the present epidemic, we had the most satisfactory proof of the influence of mental agitation in producing or aggravating the disease; for of eight women who had been delivered of natural children, and were afterwards seized with this disorder, only two out of this number recovered."—*Campbell's Midwifery*, p. 211.

The following tables, showing the frequency of the disease during different months, are of considerable value in determining this question :—

TABLE I. (*Dr. Gordon's.*)

	Cases of Puerperal.		Cases of Puerperal.
October	13	April	6
November	8	May	6
December	12	June	
January		July	
February	8	August	5
March	6	September	5

TABLE II. (*Dr. Campbell's.*)

	Cases of Puerperal.		Cases of Puerperal.
1821, March	1	1822, January	7
„ April	7	„ February	6
„ May	2	„ March	5
„ June	2	„ April	4
„ July	3	„ May	4
„ August	1	„ June	3
„ September	1	„ July	2
„ October	7	„ August	1
„ November	13	„ September	3
„ December	11	„ October	2

TABLE III. (*Dr. Ferguson's.*)

	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	Total.	
January		2	3	3		2			2	4	3	9	34	
February		2	7						2	6			17	Hospital closed Feb. 1838.
March	1		3	2			2			6		8	22	
April	3		1	1	4	1	1	3	2	6	3	9	34	
May	4	4			1		2		5	2	2		20	Closed from April to Nov. 1838.
June		3				1	2		6	4			16	
July		3				2							5	
August		3	1										4	
September	2	8					1				1		12	
October		4				2			5				11	
November				1	2			4	2				9	
December		8	3		2		1	2	2	3			21	
Attacked	10	37	24	7	9	8	9	9	26	31	9	26	205	Total attacked.
Died	1	7	6	2	2	5	3	5	10	9	2	20	68	Total died

TABLE IV. (*M. Dugès, Journ. Hebdom. de Medicine.*)

	Cases.		Cases.
1819, January	81	1819, July	40
„ February	82	„ August	40
„ March	65	„ September	53
„ April	47	„ October	69
„ May	67	„ November	74
„ June	35	„ December	65

TABLE V. (*Delaroche, of Geneva.*)

	Cases.		Cases.
January	77	July	37
February	43	August	36
March	76	September	51
April	55	October	51
May	35	November	66
June	40	December	61

Thus, the most injurious months in Aberdeen, were October, December, November; in Edinburgh, November, December, January; in London, January, March, February, December, May; in Paris, November, October, February; in Geneva, January, March, February.

"In general, the cold months are most fatal. No death has occurred in the month of July, in the General Lying-in Hospital. The most favourable month in Paris and Geneva, is June; and August in Scotland, where the summer is about three weeks later than in England. Hence we may say, that the warm months are beneficial."[1]

Whatever the epidemic influence may be, there can be no doubt that to it the majority of cases are attributable, especially the worst and most fatal.

Much has been written concerning the *contagion* or *non-contagion* of puerperal fever. Drs. Hulme, Hall, and Campbell, MM. Tonnellè, and Dugès, &c. are in favour of the latter opinion, and Drs. Gordon, Hey, Walsh, Burns, Armstrong, Douglas, Robertson, Hamilton, &c. of the former.

In all diseases which are epidemic, it is extremely difficult to decide upon the question of contagion, inasmuch as the cases which support most strongly the contagiousness of the disease, may almost all be explained by the prevalence of the epidemic causes.[2]

Nevertheless, there are some cases so marked, that I should feel scarcely justified in denying that puerperal fever is occasionally communicated by contagion.

We have seen that there are several varieties of puerperal fever, which have been differently classified by different authors—some from the symptoms, others according to the pathology. Thus Dr. Douglas describes three forms—

[1] Ferguson, on Puerperal Fever, p. 278—note.

[2] It is difficult to reconcile this conflicting evidence; and the facts I have observed, though they have led me to adopt the opinion that the disease is sometimes communicable by contagion, yet they have not, perhaps, been sufficiently numerous, and of so decisive a character, as to dispel every doubt on the subject of its contagious nature. It is but proper to state, that it has occurred in many cases, in the most destructive form, where contagion could not possibly be supposed to operate."—*Lee*, p. 93.

1. The inflammatory.
2. The gastro-bilious.
3. The epidemic, or contagious, (typhoid.)

M. Tonnellè—

1. The inflammatory.
2. The adynamic.
3. The ataxic, (irregular or nervous.)

M. Martens. *Neue Zeitschrift, &c.* b. ii.

1. The inflammatory, (where one organ only is affected.)
2. The nervous, (beginning with delirium.)
3. The putrid.

Vigarous. (*Moore on puerperal fever.*)

1. Gastro-bilious.
2. Putrid bilious.
3. Pituitous, (vomiting of pituitous matter.)
4. Hysteritis, (phlogistic.)
5. Sporadic, (arising from cold.)

Gardien—

1. Angiotemic fever, strictly inflammatory.
2. Adeno-meningic, slow, insidious fever, slimy tongue.
3. Meningo-gastric, bilious derangement, yellow skin, &c.
4. Adynamic.
5. Ataxic, or nervous.
6. Fever, with local phlegmasiæ.

Dr. Gooch—

1. Inflammatory.
2. Typhoid.

Dr. Blundell—

1. The mild epidemic, with little peritonitic tendency.
2. Malignant epidemic, with great pain.
3. Sporadic. Peritonitis limited.

Dr. John Clarke—

1. Inflammation of the uterus and ovaria.
2. Inflammation of the peritoneum.
3. Inflammation of the uterus, fallopian tubes, or peritoneum, connected with inflammatory affection of the system.
4. Low fever, connected with affection of the abdomen, which is sometimes epidemic.

Dr. Lee—

1. Inflammation of the uterine peritoneum, and peritoneal sac.
2. Inflammation of the uterine appendages, ovaries, fallopian tubes, and broad ligaments.

3. Inflammation of the mucous, and muscular, or proper tissue of the uterus.
4. Inflammation and suppuration of the absorbents and veins of the uterine organs.

Or, in other words—

1. Inflammatory puerperal fever, dependent on peritonitis.
2. Congestive, dependent on inflammation of the uterine muscular tissue.
3. Typhoid, arising from venous inflammation.

Dr. Ferguson—

1. The peritoneal form.
2. The gastro-enteric.
3. The nervous.
4. The complicated.

It appears to me, that neither of these methods is altogether free from objections; but upon the whole, I prefer the plan adopted by Dr. John Clarke, and Dr. Robert Lee, of making the local affection the basis of arrangement—as at least developing most strongly the essential facts of the disease.[1]

The great defect of this plan is the coincidence of the diseases, which it places separately; thus, hysteritis, and affections of the ovaries, &c. are very often accompanied by peritonitis. Still, however, there is a broad line of distinction between them in many epidemics; and I must only guard against the defective arrangement, by stating strongly at the commencement, that it is not intended to describe the varieties as necessarily and widely distinct, as to symptoms and causes, in every epidemic; and in the course of my description endeavour to point out the concurrence of the different local affections.

I shall thus divide puerperal fever, according to the predominant local affection, into five varieties, which I have placed in the order of frequency of occurrence.[2]

[1] "As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical and more consistent with the principles of nosological arrangement, to banish entirely from medical nomenclature, the terms puerperal and childbed fever, and to substitute that of uterine inflammation, or inflammation of the uterus and its appendages in puerperal women."—*Lee, on Diseases of Women*, p. 3.

[2] In 222 cases, Tonnellè found—

Peritonitis, in	193
Alterations of uterus and appendages, in	197
Combined lesions of uterus and peritoneum, in	165
Peritoneum alone affected, in	28
Uterus alone, in	29

In 266 cases, according to Dugès—

Uterus affected	3 cases	in 4
Ovaria	1	in 7
Perforation of stomach	10	in 266

1. Peritonitis.
2. Hysteritis.
3. Inflammation of uterine appendages.
4. Uterine phlebitis.
5. Inflammation of absorbents.

---

1. *Inflammation of the peritoneum.* This variety of the disease was the one observed in the epidemic in London, at Aberdeen, Leeds, Edinburgh, and Dublin; and it has occurred in other epidemics. It appears to affect the peritoneum covering the uterus primarily, and to extend from thence to the remaining portion of the serous membrane, involving not unfrequently the uterine appendages.

The attack may commence even before delivery, of which I had an example; but more generally from twenty hours to three days afterwards—(Hey, Gordon, Clarke,[1] Campbell,[2] Collins.[3]) The first symptom is either sudden rigours,[4] pain, or some variation in the pulse. Dr. Campbell has remarked that in some who were attacked early, the sinking of the pulse which takes place after delivery, in ordinary cases, was absent, and the frequency of the pulse rather increased.

Inflammation of stomach and intestines	4 cases	in 266
Pleuritis (single or double)	40	in 266
Pericarditis	6	in 266
Arachnitis	1	in 266
Purulent deposit in muscles	8	in 266

[1] "Two patients appeared to be ill during labour, and continued so without interruption after delivery. One of them died in thirty-six hours, and the other lived till the sixth day." "Three were attacked on the second day after delivery, and died on the seventh, or of five days' illness. One was attacked on the fourth, and died on the tenth. One was very distinctly attacked on the ninth day, as she was sitting by a good fire, and died on the twelfth."

"Of thirteen cases in the epidemic of 1788, one was attacked four days before delivery; one on the day of delivery; eight on the second day; and three on the third."—*Dr. Joseph Clarke's Essay, Med. Comm.*, 1791, pp. 311—15.

[2] "I found that in by far the majority of cases, the disease appeared soon after parturition—generally within the third day."—*Campbell's Midwifery*, p. 26.

[3] "Of eighty-eight cases that occurred during my residence, *one* had the disease well marked before delivery; *one* was attacked in six hours; *one* in nine; *one* in ten; *three* in twelve; *one* in thirteen; *one* in fifteen; *two* in seventeen; *one* in eighteen; *one* in twenty; *one* in twenty-one; and *two* in thirty hours after delivery. *Thirty-two* were attacked on the *first day; twenty-nine* on the second; *eight* on the third; *two* on the fourth; and *one* on the eighth day."—*Collins, Pract. Treat. on Midwifery*, p. 383.

[4] "In many instances the abdominal distress sets in without any previous shivering fit; thus, of the eighty-eight cases, only thirty-three commenced in that manner."—*Collins, Pract. Treat. on Midwifery*, p. 383.

Generally speaking, the rigours are first noticed; to these succeed heat of skin, thirst, flushed face, quickened pulse, and hurried respiration.[1] The heat of skin, however, soon subsides, and during the course of the disease it may not exceed the natural standard.

To these symptoms succeed nausea, vomiting, pain in the head,[2] and increased sensibility of the uterus. In some cases, the uterine tenderness (not amounting to pain) is contemporary with the rigours, or immediately succeeds them.—(Gordon, Campbell, Collins.)

Pain in the abdomen[3] soon attracts notice. It generally commences in the hypogastrium, or in one of the iliac regions, gradually radiating over the abdomen.[4]

The pain may be slight or severe, continuous, or in paroxysms —the intermissions being more remarkable as the disease advances.[5] (Campbell.) After the remission, the pain shortly returns with increased violence.[6]

We are not, however, to consider the pain as pathognomic of the disease, for we sometimes see abdominal pain resembling that in

[1] "A difficulty of breathing will be found most commonly, especially in the violent states of this complaint, which depends upon the great distention of the whole abdominal cavity; this consequently encroaches upon the thorax, presses on the diaphragm, and impedes the free action of the lungs." —*Dr. John Clarke's Essays*, p. 77.

[2] "Headache comes on gradually, and is at first confined to the forehead and eye-balls; nausea commonly attends the headache. When rigour supervenes, the cephalalgia is soon greatly aggravated, and seems to affect the whole head. The occiput is sometimes most affected."—*Bang. Moore on Puerperal Fever*, p. 36.

[3] "It is of great importance to remark this fact, that the peritoneum may be the seat of a disease strongly resembling genuine inflammation; and which yet, after a few hours or days of persistence, will as suddenly leave the tissue, as if it were an attack of shifting erysipelas, or rheumatism."—*Ferguson, on Puerperal Fever*, p. 13.

[4] "The pain was generally seated in the hypogastric region, and in a few cases there was a pain which darted from the pit of the stomach down to the spine; but in three fourths of the whole the principal seat of the pain was the right side, near the origin of the colon."—*Gordon, on Puerperal Fever*, p. 5.

[5] "The pain had no complete intermission—sometimes no remission; but was commonly much more aggravated at intervals, so as to resemble the throes of labour."—*Hey, on Puerperal Fever*, p. 22.

[6] "In the commencement of the disease, there is seldom any intermission of the pain in the abdomen; but in those cases advancing towards a fatal termination, intervals of ease are occasionally remarked." "Such remissions are quite delusive, and of short duration. It would seem, indeed, as if they were only intended to give the disease an opportunity of gaining strength—for the abdominal pains return afterwards with increased severity, so that, in some of our fatal cases, I remarked, that they attacked, as it were, by paroxysms. When matters are in this state, the abdomen is extremely sensible—it cannot bear the slightest pressure; even the weight of the bed clothes occasions insufferable pain."—*Campbell, on Puerperal Fever*, p. 30.

puerperal, which afterwards disappears altogether. (Ferguson.) And in certain cases of undoubted puerperal fever, there is no pain or pain of slight duration. I have seen three cases of intense puerperal peritonitis (as shown by dissection) in which there was neither pain nor tenderness.

Dr. Ferguson has carefully estimated the frequency of this symptom, and he has found that the number of his

Patients who had no pain was	.	.	19
——— who had pain for	.	1 day was	51
——— ——— ———	.	2 days was	48
——— ——— ———	.	3 ———	22
——— ——— ———	.	4 ———	18
——— ——— ———	.	5 ———	6
——— ——— ———	.	7 ———	5
——— ——— ———	.	8 ———	4

The pain from the first is accompanied with more or less sensibility of the hypogastrium; this tenderness becomes exquisite as the inflammation extends, until at length the patient cannot bear the slightest pressure; even the weight of the bed clothes is intolerable, and the tension and pressure of the parietes are avoided, by lying on the back, with the knees drawn up.

The enlarged uterus can frequently be felt through the integuments, above the brim of the pelvis, at an early stage of the disease. (Campbell.[1])

Shortly after the disease is established, the abdomen becomes tumid and tympanitic, and in some cases, at a more advanced stage, the presence of effusion may be detected.[2]

The air which gives rise to the tympanites, may be contained either in the intestines, or the peritoneal sac.

The effect of the disease upon the lochial discharge varies; in the majority of cases it continues to flow as usual. (Hulme, Gordon, Wilson.) In some, the quantity is diminished. (Armstrong, Campbell.) And in a very few, it is suppressed.[3]

[1] "The uterus, in almost every instance, could be distinctly felt above the pubes—it was extremely sensible to the touch; and my impression is, that this organ increases in size during the disease."—*Campbell, on Puerperal Fever*, p. 33.

"Though an enlarged and painful state of the uterus is never altogether wanting, yet the pain often undergoes exacerbations similar to after-pains, and is frequently mistaken for these by careless observers; and the true character of the disease is overlooked, until a great part of the peritoneal sac is inflamed. The whole abdomen then becomes swollen, and tympanitic, and the pain either wholly subsides, or becomes still more intense than at the commencement."—*Lee, on Puerperal Fever*, p. 21.

[2] "At the commencement of this disease, I generally found the abdomen more or less tumid, and this tumidity increased in proportion as the situation of the patient became more precarious, until the abdomen, in some instances, was as prominent as before delivery."—*Campbell, on Puerperal Fever*, p. 33.

[3] "The lochial discharge, and the secretion of milk, were not subject to any general law. Sometimes they continued regular for a short time, and

The secretion of milk is much more uniformly influenced by the attack. If it have commenced before the incursion of the disease, it is suspended, and the mammæ become flaccid; if the disease precede, the secretion is generally prevented.[1] It is remarkable, that a great number of the patients lose all interest in their infants, and even refuse to give them suck. (John Clarke, Campbell.)

The pulse is uniformly high throughout the disease, varying from one hundred and ten to one hundred and forty in a minute, and towards the termination, to one hundred and sixty and upwards.[2] It is generally small and wiry, but is liable to modifications, from treatment, and from the peculiar character of the epidemic.

The tongue is generally coated with a whitish film in the centre,

sometimes were suppressed from the beginning."—*Dr. Jos. Clarke's Essay, Med. Comment.*, 1791, p. 309.

"The lochia are often entirely suppressed; in other cases only diminished in quantity. In some instances they have an offensive odour. The mammæ usually become flaccid; yet in some fatal cases, the milk has been secreted until a short period before death."—*Lee, on Puerperal Fever*, p. 22.

[1] "If the disease came on before the secretion of milk, that secretion was entirely prevented; if afterwards, it soon disappeared, and the breasts became flaccid. The lochia were variously affected: sometimes they suffered no alteration; at others, they were diminished or suppressed; but would often appear afresh during the continuance of the disease."—*Hey, on Puerperal Fever*, p. 23.

"The secretion of milk was nearly suspended soon after the attack; the breasts became flaccid, and the mother, so lately all solicitude about her child, now seldom inquired after it, and indeed seemed almost insensible to those things which before most deeply interested her feelings."—*Armstrong, Puerperal Fever*, p. 4.

[2] "The pulse in general is quick and weak, though sometimes it will resist the finger pretty strongly. At the beginning of the disease, it seldom beats less than a hundred strokes in the space of a minute; and from this number I have found it run on to one hundred and sixty. The intermediate pulsations were various. The most common number was one hundred and twenty-eight; and the next general numbers were, one hundred and twelve, one hundred and twenty, and one hundred and thirty-two. The different habits of body, and circumstances of the disorder, will easily account for these variations in the pulse. When the disease proves mortal, the pulse at last becomes so quick and weak, as scarcely to be numbered."—*Hulme, on Puerperal Fever*, p. 6.

"The condition of the circulation is various at the commencement: but I have never found the pulse below one hundred and ten, after it could be said that the disorder was fairly established; on the contrary, indeed, it was more frequent than this—seldom under one hundred and twenty. When the disease is fully formed, the pulse is oftener from one hundred and twenty to one hundred and thirty, than in any other state; and when it has continued for any time, the rate of vascular action will seldom be lower than one hundred and forty. In the advanced stages of cases which are to terminate fatally, the pulse is oftener above one hundred and forty than below it; sometimes it is too rapid to be numbered. In the commencement, the pulsation is sometimes full, but more generally hard; and as the disease advances, it becomes contracted, or thready—frequently intermits; and towards the close, is so weak for a considerable period, as to be scarcely perceptible."—*Campbell, on Puerperal Fever*, p. 35.

but red around the edges—(Gordon, Hey, &c.[1]) In some few cases, it is dry, and brown in the centre, with a yellowish or white fur at the edges.

The thirst is considerable at the beginning, and towards the termination of the disease, but much less during its height.

The stomach is disturbed at a very early period, and the nausea and vomiting continue at intervals throughout the attack. At first, the matter voided is merely the contents of the stomach, mixed with mucus; afterwards, bilious matter is ejected; and lastly, green, brown, and black fluids—constituting what is called the "coffee-ground vomit."[2]

In many cases, the intestinal canal shares in the irritation, and diarrhœa results.[3] This, by some, has been held as a favourable symptom; but by others, as an aggravation of the puerperal fever.[4] My own observations would lead me to the latter conclusion.

The dejections vary in character and consistence—becoming very dark and fœtid, towards the termination of bad cases.

The urine is generally turbid, or high coloured, and somewhat diminished in quantity, and the patient has occasionally difficulty in voiding it.[5] (Leake, Gordon, Campbell.)

[1] "There is no uniformity observable in the appearance of the tongue in puerperal peritonitis. It is sometimes entirely covered with a thin, moist, white, or cream-like film; at other times it is of a deep red, or brown colour in the centre, with thick yellow or white fur on the edges."—*Lee, on Diseases of Women*, p. 22.

[2] "Mr. Murray, an able teacher of chemistry in this city, did me the favour to analyse some of the black vomit; and he found it to consist chiefly of resin, together with mucus, gelatine, phosphate of lime, and muriate of soda, in small proportions."—*Campbell, on Puerperal Fever*, p. 181.

[3] "The belly, at the beginning, is generally costive. Sometimes it is very regular; at other times, a diarrhœa attends. When this last is the case, what is discharged is usually of a dark brown colour, and very fœtid, and the stools are sometimes covered with a whitish froth. When the disease terminates in death, involuntary stools are the general harbingers."

"I have remarked that a diarrhœa coming on either at the beginning, or afterwards, and continuing through the whole course of the disease, will sometimes rather tend to prolong than quicken the time of death."—*Hulme, on Puerperal Fever*, pp. 9 and 18.

[4] "A diarrhœa was a frequent symptom, and was a symptom rather to be desired than dreaded; for without a spontaneous or artificial diarrhœa, very few recovered. The stools were frothy, and of a yellowish, greenish, or dark brown colour; and every discharge by stool seemed to give temporary relief; but towards the end of the disease, they were frequently involuntary, and sometimes became black, and very fœtid, resembling moss water; and were one of the symptoms of internal mortification."—*Gordon, on Puerperal Fever*, p. 6.

"In several cases that fell under my observation, the diarrhœa appeared to rekindle the inflammatory action, after it had been repeatedly subdued by the lancet and by leeching."—*Mackintosh, on Puerperal Fever*, p. 45.

[5] "The patient at first often complains of some difficulty in making water, and discharges it in small quantities; but this usually goes off after having a stool or two. The urine, after standing for some time to settle, generally appears of a brown colour, and deposits a crude sediment, half-floating, at the bottom of the glass."—*Hulme, on Puerperal Fever*, p. 9.

Throughout the course of the disease, the skin is generally about the natural heat, and dry; but as it approaches a fatal termination, it becomes cold and clammy.

The intellectual faculties are rarely affected; the patient retains her consciousness and senses, till very near the end.[1]

The countenance is much altered; the features are all drawn up, and expressive of great anxiety and suffering. A patch of crimson is observed on the cheeks sometimes, and is an unfavourable symptom.[2] (Gordon, Hamilton, Campbell.)

Such are the symptoms, as laid down by those who have had the most ample experience in this fatal disease.

Its duration will vary, according to the virulence of the epidemic. Some cases have terminated fatally, on the first, second, or third day; others from the fifth to the tenth.[3]

Morbid appearances. The peritoneum *may* exhibit no sign of inflammation; but generally it is found more or less vascular, especially that portion of it covering the uterus.[4]

[1] "The intellectual faculties were sometimes, but not frequently, deranged; for I seldom observed a delirium, except in a few improperly treated or neglected cases, to which I was called late in the disease. But, in general, the patient retained her senses to the last."—*Gordon's Essay on Puerperal Fever*, p. 7.

[2] "A circumscribed crimson colour on the cheeks, was a symptom which sometimes occurred towards the close of the disease; and was a mortal symptom."—*Gordon's Essay on Puerperal Fever*, p. 6.

[3] "Dr. Denman says, on the eleventh day from the attack. Forster, from the fourth to the sixth day. Leake, tenth or eleventh. Hulme, seventh or eighth day. Hamilton, fifth or sixth day. Gordon, on the fifth day. Hey, within a week. Bang, the fifth or sixth day.

"A greater number of our patients died on the fifth day from the commencement of the disease, than at any other period. One, as already stated, died on the first day, or that on which she shivered; three on the second; three on the third; four on the fourth; *seven on the fifth;* one on the sixth; two on the seventh; and one on the eighth day."—*Campbell, on Puerperal Fever*, p. 50.

"It may destroy the patient within twenty-four hours from the commencement of the disease." "Three or four days—not to say, five or six, may be the average duration of this affection."—*Blundell's Obstetricy*, p. 741.

"In *fixty-six* deaths in the hospital, it proved fatal at the following periods after the date of the seizure, viz.:—*Two* in twenty-four hours; *one* in twenty-seven; *one* in thirty-six; *nine* on the second day; *fifteen* on the third; *thirteen* on the fourth; *four* on the fifth; *five* on the sixth; *three* on the seventh; *two* on the eighth; and *one* on the eleventh day."—*Collins, Pract. Treat. on Midwifery*, p. 384.

[4] "The peritoneum, or investing membrane of the abdomen, was inflamed; and the extensions or productions of the same membrane which constitutes the omentum, mesentery, and peritoneal-coat of the intestines, were all promiscuously affected.

"In all the subjects which I dissected, the right ovarium was diseased, and the left sound."—*Gordon, on Puerperal Fever*, p. 34.

"Puerperal peritonitis commences in the peritoneal covering of the uterus, and extends from thence, with greater or less rapidity, according to the severity of the attack, to the whole peritoneum. In some cases, the inflammation is confined to the uterus, and it is generally most severe in this

Its substance is thickened, and in some instances softened.

The longer the duration of the pain, the more intense will be the redness, and the greater the thickening of the peritoneum. (Ferguson.)

It is frequently covered with a layer of lymph, which agglutinates the omentum and intestines together.

The omentum generally exhibits marks of inflammatory action, and in some cases the disease appears confined to it. (Leake, Hulme.)

The organs covered by the serous membrane may participate in the inflammation.

More or less serum and lymph are found effused into the peritoneal sac. It does not vary in chemical composition from that in ordinary peritonitis.

It may be clear or turbid, of a yellowish white colour, with shreds of lymph floating in it.

Blood may be effused into the peritoneal sac, alone, or mixed with the serosity. (Lee, Ferguson.)

Puriform matter is frequently found, especially in the pelvis, around and behind the uterus, where the inflammation has apparently been most intense.

situation, or in the parts immediately surrounding that organ; even when it has extended to the other viscera, and affected them most severely, the peritoneum of the uterus invariably exhibits signs of recent inflammation. The lymph is, for the most part, thrown out in thicker masses upon the uterus than in any other situation; and this viscera seems always to suffer in the greatest degree. In the cellular membrane, under the peritoneum, serum and pus are also not unfrequently found deposited. The cellular tissue also, which surrounds the vessels of the uterus, where they enter and quit the organ, not unfrequently contains some serous or purulent fluid, and the same appearance has been observed in the cellular membrane, connecting together the muscular fibres."—*Lee, Diseases of Women*, p. 24.

"In thirty-seven of the fifty-six women who died, the following post mortem appearances were discovered:—'The abdomen being ostensibly the seat of the disease, the morbid appearances were principally found there; however, in *seven*, we observed fluid effused into the thoracic cavities, similar in appearance to that met with in the abdomen. Effusion of fluid, though differing in character and quantity, was invariably found to have taken place. In *twelve*, it seemed to be serum, of a straw colour; in *eighteen*, it was seropurulent, something of the consistence of thick cream; and in *seven*, it appeared bloody serum, with quite a glutinous feel when rubbed between the finger and thumb. In these latter cases, which rapidly proved fatal, there was no lymph whatever formed, whereas, in the other varieties, it was usually found deposited in large quantities, particularly in the vicinity of the uterus, but often over the entire surface of the intestines and abdominal serous membrane. In almost every body examined, the peritoneum exhibited great increase of vascularity; nor could we discover in any instance that the inflammation seemed to penetrate deeper than this membrane. The uterus, in a great majority of cases, was quite natural in appearance; in some, it was soft and flabby, and in a few, unhealthy matter was found in its sinuses. The ovaries, in numerous instances, had suffered much in structure from the effects of inflammation; being generally much enlarged, and so softened in texture as to be broken in pieces by the least pressure."—*Collins, Pract. Treatise on Med.* p. 398.

"It is often contained in a cyst, which apparently is merely a concretion of the outer surface of a globe of pus."—(Ferguson.)

Effusion of puriform matter, or a reddish serum, is sometimes observed beneath the serous membrane. (Cusack.[1])

Diagnosis—1. *From after-pains, or hysteralgia.*[2] These affections occur soon after delivery, and diminish or disappear by the third or fourth day—about the period when puerperal fever commences.

After-pains are accompanied by a perceptible contraction of the uterus, which is absent in puerperal fever.

The pulse is sometimes accelerated by after-pains, but is seldom steady in its frequency; in puerperal, it never falls below its frequency at first, but generally increases.

The hypogastric tenderness in after-pains, is not great, except during a pain, and it goes on decreasing—whilst in puerperal it rapidly increases.

The constitutional disturbance is incomparably greater in puerperal, and it augments every day; whilst in hysteralgia it diminishes.

The sedative, which generally relieves after-pains, has little or no influence upon the pain in puerperal fever.

Notwithstanding these distinctions, there are undoubtedly many cases in which the diagnosis is by no means easy at first; and our treatment should be arranged, so as to err (if we be in error) on the safe side.

2. *From intestinal irritation.*[3] This affection frequently as-

[1] "Two kinds of effusion are met with in the cells of those tissues, (subserous and pelvic cellular tissue,) one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity, and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue, which connect together the two layers of the mesentery. The other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous, where the looseness of the peritoneum admits of freer effusion. Thus the lax nature of the cellular tissue connecting the layers of the peritoneum, which form the broad ligaments of the uterus, admits of its being poured out in considerable quantities in that situation."—*Dr. Sam. Cusack on Puerperal Fever, Ed. Med. and Sug. Jour.* No. 98.

[2] "It is sometimes difficult to distinguish inflammation of the peritoneum from after-pains and hysteralgia. When the pulse is accelerated, the remissions of pain incomplete, the lochia scanty or suppressed, and the hypogastrium tender on pressure, we shall arrive at a most correct diagnosis, by considering the peritoneal coat of the uterus in a state of congestion and inflammation; and employing antiphlogistic treatment."—*Lee, Diseases of Women*, p. 23.

[3] "In cases of intestinal irritation, or disordered states of the stomach or bowels after delivery, which are not of such frequent occurrence as some writers have represented, the pain is from the commencement of the attack diffused over the whole abdomen; it is rather a griping than acute pain; does not commence in the region of the uterus; and is but little if at all aggravated by pressure. The abdomen is generally soft, puffy, and distended. The tongue is loaded; there is thirst and headach; neither the

sumes many of the characteristics of puerperal fever. There are, however, several points of difference. It is generally accompanied by marked evidences of gastric and intestinal disorder. The tongue is loaded—there is flatulence, nausea and vomiting, constipation or diarrhœa. The abdominal pain is diffused, and does not radiate from the uterus, as in puerperal; neither is the uterus enlarged or tender. The abdomen is not tense, nor very sensible to pressure. Puerperal fever sets in at an earlier period, after delivery, than intestinal irritation, and it causes greater constitutional disturbance.

3. *From ephemeral fever, or weed.* The commencement of ephemeral fever may excite some alarm, from its resemblance to puerperal; but its duration is shorter, its decline rapid, and its constitutional symptoms less severe, than in puerperal fever. There is also far less abdominal irritation, and, the breasts continue distended.

4. *From hysteritis.*[2] The main distinction is the character and situation of the tenderness; in puerperal peritonitis, the slightest touch on the abdominal parietes causes acute torture; whereas, in hysteritis, the patient can bear pressure very well, until we can feel the enlarged uterus. Any increase of pressure, after the abdominal parietes are in contact with the uterus, gives acute pain.

The symptoms of hysteritis, are also more local.

Prognosis.—The general prognosis is unfavourable, even in sporadic cases, but still more so when the disease is epidemic.[3]

Dr. Hulme declares it to be as bad as the plague.

lochia nor the secretion of milk are suppressed. The febrile attack is usually preceded by evident signs of derangement of the bowels, such as flatulence, nausea, vomiting, constipation, or diarrhœa. Puerperal peritonitis is developed, in a large proportion of cases, before the end of the fourth day, after delivery—whereas this affection rarely appears until the termination of the first week."—*Lee on Diseases of Women*, p. 22.

[1] "The ephemera called 'the weed,' is ushered in by strong rigors, which commonly in less than an hour are followed by heat, thirst, and general excitement, the whole train of symptoms being terminated in twenty-four or thirty hours by profuse perspiration. The absence of abdominal irritation is generally sufficient to prevent the possibility of mistaking the disease for puerperal fever."—*Armstrong on Puerperal Fever*, p. 22.

[2] "Simple hysteritis may be known by a burning, throbbing pain, fulness and oppressive weight in the region of the uterus; by frequent calls to make water, which is passed with great pain and difficulty; by the uterus itself feeling hard, hot, and enlarged—being exquisitely sensible when pressed upon—by violent pains darting through to the back, and down to the groin and thighs—by an increase of pain from raising the trunk erect; and by the soreness and fulness being more confined to the lower part of the abdomen throughout the attack, than in the puerperal fever."—*Armstrong on Puerperal Fever*, p. 20.

[3] "For some time after the commencement of this fatal malady, it proved fatal in every case that came within my knowledge; and though a few patients recovered, under the treatment which my father and I had formerly found successful with puerperal fever, yet the success was very small till the method hereafter described was fully adopted."—*Hey on Puerperal Fever*, p. 10.

Dr. Leake lost	13	cases out of	19.
Dr. W. Hunter,	31	———	32.
Dr. Clarke,	21	———	28.
Dr. Gordon,	28	———	77.
Dr. Campbell,	22	———	79.
Dr. Armstrong,	4	———	44.
Dr. Lee,	40	———	100.
Dr. Collins,	56	———	88.
Dr. Ferguson,	68	———	205.

In the epidemic in Paris, (1746,) in Edinburgh, (1773,) and in Vienna, (1795,) none recovered.

"If we take the results of treatment adopted in various puerperal epidemics, by various practitioners, we shall find that on a large scale, one in every three will die, with all the resources which medicine at present offers. To save two out of three, then, may be termed good practice in an epidemic season." (Ferguson.[1])

Treatment.—It must be borne in mind, when any peculiar mode of treatment is advised, that the character of the epidemic is the test of its propriety. Forgetfulness of this rule has been the source of much controversy, and no slight acrimony. As Dr. John Clarke remarks, each author takes the epidemic he has witnessed as the type of all, and remorselessly condemns all treatment which does not agree with that which he has found successful. There is no question that the employment of antiphlogistic remedies, by Gordon, Hey, Armstrong, &c. was a great improvement upon the old methods; but it is easy to conceive an epidemic in which this plan must be strikingly modified, or altogether abandoned. Having premised thus much, I shall describe the treatment which has ordinarily been found the most efficacious.

If the pulse be firm, a large quantity of blood should be taken from the arm. Dr. Gordon recommends from 20 to 24 ounces at the beginning, and if necessary this may be repeated.[2] The blood generally exhibits the buffy coat. (Hulme, Gordon, Hey.)

[1] On Puerperal Fever, p. 112.

[2] "In the childbed fever, therefore, bleeding is the only remedy which can give the patient a chance for life."—*Leake on Childbed Fever*, p. 101.

"When the pulse is *firm and regular*, we should not hesitate to use the lancet at whatever time we are applied to."—*Campbell on Puerperal Fever*, p. 262.

"As to the repetition of bleeding, and the manner of conducting it, I think it most important to remark, not only in reference to this, but to all puerperal diseases, that the mode proposed by Dr. Hall, *to place the patient upright and to bleed to incipient syncope is one of extreme value*, affording at once perhaps, the safest rule, and the best diagnostic in these cases."—*Ashwell, on Parturition*, p. 481.

"Bleeding in puerperal fever is advocated by the following practitioners: Dr. Denman, (in his old age;) Dr. Leake; Dr. Gordon, (boldly;) Dr. Butler; Dr. Kirkland, (if the lochia be little;) Dr. Hall, (the robust only:) Dr. Armstrong, (boldly;) Mr. Hey, (boldly;) M. Vigarous and M. Gardien, (in some

Should any circumstances forbid a repetition of the venesection, a number of leeches, (from 60 to 100, Campbell,) may be applied to the abdomen, and when they fall off, the abdomen should be fomented, or covered with a light bran poultice. (Gooch.)

The fomentation, or poultice, may be repeated at intervals, as it has a very soothing effect.

After full depletion, the next most powerful remedy is mercury, alone or in combination with opium.[1] Without explaining its *modus operandi*, it is sufficient to state the fact, that it has been found to exercise a remarkable influence over inflammation of serous membranes. It may be given in large doses, (gr. x. every three or four hours,) or in smaller ones, more frequently repeated, (gr. ii. every hour;) and it should be continued until an impression is made upon the disease, or until the mouth is affected, unless purging be induced.

After a decided effect is produced, the dose may be diminished, and the intervals lengthened.

For the purpose of preventing intestinal irritation, it is usual to combine it with Dover's powder or opium. Perhaps it is not too much to say, that the benefit of the opium in this combination is not confined to the prevention of intestinal disturbance, but that it exerts a positive and beneficial influence upon the inflammation.

Mercurial frictions are a valuable mode of affecting the system.

varieties:) Dr. Campbell, Dr. Macintosh, (boldly;) Dr. Douglas, (in first and second varieties;) Mr. S. Clarke; Dr. Jos. Clarke; M. Duges; M. Tonnellé; Dr. Blundell; Dr. Conquest; Dr. Gooch; Dr. Dewees; Dr. Rye; Dr. Lee, &c. &c."—*Moore on Puerperal Fever*, p. 210

"In 15 only of the 88, did we deem it advisable to bleed generally; *seven* of the fifteen recovered." "I am satisfied, however, that in *hospital*, the immediate application of *three or four dozen* leeches, followed by the warm bath, in which the patient should remain as long as her strength will bear it, will be found in the great majority the most judicious means of removing blood."—*Collins, Pract. Treatise on Midwifery*, pp. 391–393.

[1] "At the same time, eight or ten grains of calomel, in combination with five grains of antimonial powder, and gr. iss. or gr. ii. of opium, or gr. x. of Dover's powder, should be administered; and this should be repeated every three or four hours, until the symptoms begin to subside."—*Lee on Diseases of Women*, p. 103.

"In the mean time, after the bowels had been acted on by the oil draught, we used every effort to bring the patient, as speedily as possible, under the influence of mercury." "In general, I ordered four grs. of calomel, with as much ipecacuanha powder, to be given every second, third, or fourth hour." "The quantity of calomel and ipecacuanha, taken in this way, in many instances was very great, to the amount of three, four, or five hundred grains or upwards." "In several instances, a scruple of calomel was given every second or third hour, and carried to a great extent. One patient took more than an *ounce*. I could not observe any better effect from the large doses than the small; the system was not more speedily influenced; and when they did so act, it was often with violence, so as to endanger the destruction of the soft parts about the palate."—*Collins, Pract. Treatise on Midwifery*, pp. 394-5-6.

They were first employed, I believe, by Velpeau,[1] in this complaint, and are now generally used.

When the calomel acts on the bowels, it may be omitted, and the opium alone continued; and I have seen as much benefit from it alone, as from the calomel. Some years ago, I saw a case of puerperal peritonitis, in consultation with a friend, and we administered large doses of opium, (gr. i. every hour,) with the greatest benefit. Since then, several similar cases have occurred to me.

My friend, Dr. Stokes, was the first to point out the value of opium, in bad cases of peritonitis, where bleeding was inadmissible; and I have repeatedly verified his observations.

Tartar emetic was recommended by Hulme, and used by several since his time with apparent benefit. The state of the stomach, in many cases, however, will prevent its exhibition.[2]

Purgatives have been warmly recommended by some writers—(Hulme, Denman, Gordon,[3] Hey, Armstrong, Chaussier, Stoll,) and as strongly reprobated by others—(Baglivi, John Clarke, Cederskiol, Thomas, Campbell.)

"My own experience," says Dr. Ferguson, "with regard to aperients, is, that whenever they create tormina there is the greatest risk of an attack of metro-peritonitis succeeding. This so constantly occurs, that I invariably mix some anodyne—usually Dover's powder, or hyosciamus, or hop—with the purgative."[4]

If the bowels be constipated, an enema of turpentine and castor oil will be useful.

The spontaneous diarrhœa is not always beneficial, but will often need to be restrained by astringents or opiates.

Emetics were employed before 1782, by English practitioners, and in 1782 they were recommended by Doulcet, of Paris, who relied upon them exclusively, and derived from them extraordinary success. Other practitioners have also used them successfully—(Hufeland, Osiander, Desormeaux;[5]) but they have failed so often, as to have gone out of use, especially in these countries, perhaps in consequence of our mistaking the proper cases.[6]

[1] Revûe Medicale, Jan. 1827.

[2] "When the *tartarum emeticum* or *vinum antimoniale* are made use of, they are to be given in small doses every two or three hours, till they pass through the intestinal canal."—*Hulme on Puerperal Fever*, p. 59.

[3] "The purging, therefore, is to be early excited, and continued without intermission, till there be a complete termination of the disease, which generally happens on the fifth day."—*Gordon on Puerperal Fever*, p. 49.

[4] On Puerperal Fever, p. 211.

[5] "M. Tonnellé states that M. Desormeaux first made trial of them about the end of 1828, with great advantage. During the following year, they were again employed, but most frequently they entirely failed; but they never appeared to produce any aggravation of the pain or other symptoms. Another trial was made of them after this, and they were again followed by the most happy results." In September, 1829, they succeeded; but in October and November they failed."—*Lee, Diseases of Women*, p. 109.

[6] "The practical question then, is, what are these cases in which the

In 1814, Dr. Brennan of this city proposed the use of turpentine, which he praised as almost a specific. He gave it in doses of a table-spoonful at a time, in a little water, sweetened. Drs. Douglas,[1] J. A. Johnson, Dewees, Payne,[2] Kinneir, Blundell, and Waller, have found it more or less useful.

Dr. Clarke and other practitioners tried it, but without success.[3]

It is certainly beneficial when the intestines are tympanitic, especially in the form of enema, and as a counter-irritant to the abdomen; but I have never seen it exert any remarkable influence upon the disease.

At an advanced stage of the disease, blisters are very useful.—They may be applied to any part or the whole of the abdomen, and dressed with mercurial ointment.

Recolin, Dance, and Tonnellé, have recommended injections of warm water, into the vagina and uterus, three or four times a day.

Drs. Lee and Campbell have tried them in a few cases, with decided advantage. I have frequently syringed the vagina with warm water, with benefit; but I never threw the injections into the uterus.

Hip baths have been found useful by Desormeaux and Collins; but the pain of moving the patient is an insurmountable obstacle to their frequent use.

Loeffler and Ceeley of Aylesbury have seen good effects result from the application of cold to the abdomen.

The irritation of the stomach may be allayed by effervescing draughts containing a few drops of laudanum, or by a few grains of the subcarbonate of potash, dissolved in aq. menth. virid.

A selection of these remedies will afford a tolerably good chance to the patient, if we are called early; but in many instances we shall fail, either in cutting short the disease, or in curing it ultimately.[4]

remedy is applicable. The clue has been already given, I imagine, by Doulcet himself; it is, when the violence of the malady has fallen on the liver especially; and when there is early nausea, and spontaneous vomiting."—*Ferguson on Puerperal Fever*, p. 204.

[1] Dublin Hospital Reports, vol. iii.

[2] Edin. Med. and Surg. Journal, vol. xviii. p. 538.

[3] "In addition to the usual routine of practice, numerous trials were made of the rectified oil of turpentine, in doses from six to eight drachms: sometimes in plain water; sometimes combined with an equal quantity of castor oil. The first few doses were generally agreeable to the patient; and seemed to alleviate the pain. By a few repetitions, it became extremely nauseous; and several patients declared that they would rather die than repeat the dose. In more than twenty trials of this kind, not a single patient recovered."—*Dr. Clarke's Letter to Dr. Armstrong.*

[4] "When called in the beginning of the disease—that is, within six or eight hours after the attack—I was often able to put an immediate stop to it; even when the pulse was at the rate of 140. But when the patient had been ill twelve or twenty-four hours before I was called, I was not able to bring the disease to an immediate conclusion; the most I could do in such cases, was to check its violence, and overcome it by degrees; for I could seldom bring it to a complete termination before the fifth day. But when the patient

It is of the greatest importance, however, that all the means at our command should be tried perseveringly, and that our forebodings should not be allowed to diminish our exertions.[1]

---

2. Inflammation of the Uterine Appendages.—Under this head is included inflammation of the serous membrane, and proper tissue of the ovaries, fallopian tubes, and broad ligaments.

It is not always possible to separate these affections from inflammation of the peritoneal cavity, with which they are so often conjoined; but there are cases in which they exist alone, or predominate in a striking manner, or where the consequences of the disease continue longer in these parts.

Puzos has described such cases by the term, "*Depots laiteux dans l'hypogastre*," and Levret as "*Engorgemens laiteux dans le bassin*."

The observations of MM. Husson and Dance likewise prove that this is a frequent, and often fatal, termination of inflammation of the peritoneal coat of the uterus, and its appendages.

M. Tonnellé found 58 cases of inflammation of the ovary, and four of abscess, out of 190 cases of puerperal fever.

Symptoms.—As inflammation of the uterine appendages is generally combined with more or less inflammation of the peritoneal sac, it consequently presents similar symptoms; but, in addition, we find local distress in the situation of these appendages.

The pain is somewhat less acute than in general peritonitis, and is seated in one of the iliac fossa, or the lateral parts of the hypogastrium, extending to the groins, and down the thighs, accompanied with great tenderness on pressure.

An examination *per vaginam*, will often throw light upon the disease; that canal will be found hot and painful at the upper part, and in some cases a tumour may be discovered through its parietes, laterally.

The disease generally commences with rigors, thirst, headache, quick pulse, &c. presenting an array of constitutional symptoms

had been ill for a longer space than twenty-four hours before I was sent for, I generally found that the disease was no longer in the power of art."—*Gordon's Essay on Puerperal Fever*, p. 8.

[1] "I cannot too strongly urge the necessity of continuing to employ the remedies whilst the slightest hope of recovery is entertained. I have seen several patients restored to health, where the pulse had risen to 160, and was so feeble as scarcely to be felt at the wrist, when there was constant delirium, and the most alarming prostration of strength. Recovery has even taken place in some cases which I have observed, where the abdomen has become tympanitic, and effusion to a considerable extent taken place into the abdominal cavity. In no acute disease is it of greater consequence than in this now under consideration, that the patient should be visited by the medical attendant at short intervals; and that the effects of the remedies he prescribes should be narrowly watched."—*Lee, Dis. of Females*, p. 112.

very similar to those in peritonitis, which, therefore, I need not repeat.

If the disease be extensive, there is generally observed much exhaustion following the first stage, and the attack may prove quickly fatal.

Should the disease not prove fatal, the attack may terminate—

1. In *resolution*, without the organs being seriously injured; or in some cases, adhesions may be formed between contiguous portions of the serous membrane, which, though for the present innocuous, may be injurious subsequently. Boivin and Duges relate a case, in which anteversion was caused by these adhesions.

If the fallopian tubes have been involved, the cavity of one or both may be obliterated, or they may become adherent to some neighbouring part, so as to prevent altogether their ordinary functions.

2. In *suppuration*. Matter may form in either ovary or broad ligament, and may escape into the peritoneal sac—through the parietes of the vagina—or through the abdominal parietes, near Poupart's ligament.[1] (Boivin and Duges.)

A case of the latter kind occurred at the Meath Hospital, last winter; and several have recently been published by Mr. Thomson.[2]

Morbid Anatomy. In some cases we find, on dissection, that the disease has been confined to the serous membrane, presenting similar phenomena to those already noticed—thickening, effusion of lymph, or serum, &c.

The broad ligaments, fallopian tubes, and ovaria, are red and vascular. The morsus diaboli is of a vivid red colour, and sometimes softened, and in its cavity, or under the peritoneum, deposits of pus may be discovered.[3]

Effusion of serum, or purulent matter, may also be found between the folds of the broad ligaments.

[1] "My own experience has only furnished me with a single instance of a circumscribed abscess following any inflammatory affection in the cavity of the abdomen in a puerperal patient. This broke at the navel some months after delivery; but the event of the case never fell within my knowledge."—*Dr. John Clarke's Essays*, p. 72.

"M. Weidmann has given the description of a case of adherence of the epiploon to the anterior part of the uterus, in consequence probably of a previous inflammation of the uterus, after a laborious labour. In a subsequent pregnancy, the woman perished about the fourth and a half month of utero-gestation, with symptoms of strangulated bowels. I have recorded the history of an interesting case of this description, at the full period, which came under my observation in the British Lying-in Hospital."—*Weidmann, Memoria Casus Rari*, March, 1818. Lee, p. 27.

[2] Med. Gazette, Jan. 24, 1840, p. 660.

[3] "Inflammation is often observed running along the fallopian tubes, which, when cut open, will be seen loaded with blood. The ovaria, too, are often affected in the same way."—*Dr. John Clarke's Essays*, p. 63.

"Pus is also found in the cavity of the fallopian tubes; and also in the substance of the ovaria, which are in some cases distended by inflammation and matter, so as to equal in bulk a pigeon's egg."—*Dr. John Clarke's Essays*, p. 64.

The ovaria may be imbedded in lymph, the product of inflammation of their serous coat. Sometimes they are swollen, red, and pulpy.[1] One or both of these organs may be affected. Dr. Gordon mentions that in his cases of puerperal the right ovary was always diseased, and the left healthy.

Upon laying open the ovaries, their structure will be found more or less diseased. There is a great increase of vascularity, and frequently a softening of the proper tissue. In a few cases, it is utterly disorganised.

Blood is sometimes effused into the graafian vesicles, so as to destroy their texture.

Pus may be found in small masses throughout the ovary, or that organ may be reduced to a sac, containing purulent matter, which often escapes through artificial openings, as already noticed.

Diagnosis.—The situation of the pain and tenderness, and the information obtained by an internal examination, are the only ground of diagnosis—and an uncertain one, it must be confessed—during the acute state.

If the disease pass into a chronic stage, and an abscess form, these means will render the case sufficiently clear. The case in the Meath Hospital was detected in this way, before the matter could be discovered from the surface.

Treatment.—Venesection; but after one bleeding from the arm, it will be more beneficial to apply leeches to the tender part, followed by poultices. Calomel and opium will be as necessary, and

[1] "The ovaria and fallopian tubes are softened, and deeply injected with blood, serum, lymph, or pus—affording therefore lesions, depending for their variety of consistence, colour and tinges, on various combinations of these fluids."—*Ferguson on Puerperal Fever*, p. 38.

"Numerous important changes have likewise been seen in the structure of the ovaria. Their peritoneal surface has been red, vascular and imbedded in lymph, without any visible alteration of their parenchymatous structure; or their whole volume has been greatly enlarged, swollen, red and pulpy; blood has been effused into the vesicles of De Graaf, or around them, and circumscribed collections of pus have been found dispersed throughout the substance of the enlarged ovaria. In several cases, which have come under my own observation, the entire structure of the ovaria has been reduced to a vascular pulp—all traces of their natural organisation being imperceptible."

"The ovarium appeared, in one instance which came under my care, to be converted into a large cyst, containing pus, which had contracted adhesions with the abdominal parietes, and discharged its contents externally, through an ulcerated opening. In another case, which proved fatal, the inflamed uterine appendages, agglutinated together, had contracted adhesions with the peritoneum, at the brim of the pelvis—the inflammation having extended to the cellular membrane exterior to the peritoneum, and occasioned an extensive collection of pus, in the course of the psoas and iliacus internus muscles, similar to what takes place in lumbar abscess. In three other individuals under my care, who ultimately recovered, the purulent matter formed along the brim of the pelvis, made its way under Poupart's ligament, to the upper part of the thigh, and escaped through an opening formed in that region. In all these cases, contraction of the thigh on the pelvis took place, which remained for several months."—*Lee, Diseases of Women*, p. 26.

as useful here, during the acute stage, as in the disease previously described.

Vaginal injections of warm water, and hip baths, will be found very soothing.

If there be evidence of matter being within reach, it will be advisable to make an opening for its escape.

If much pus be discharged, so that the constitution suffer, tonics, with wine and generous diet, should be given.

---

3. HYSTERITIS. Inflammation affecting the proper tissues of the uterus, has been frequently described. It is mentioned by Astruc, Vigarous, and Primrose.[1] Pouteau met with it in the epidemic of 1750. Böer and Ricker, have termed it Putrescirung, or Putrescenz der Gebarmütter;[2] and Smith,[3] Danyau,[4] and Tonnellé, have recorded cases of it.

In certain epidemics, it is by no means infrequent. Out of 222 fatal cases of puerperal fever, M. Tonnellé found simple metritis in seventy-nine; superficial softening in twenty-nine; and deep softening in twenty.

M. Duges found the womb affected in three cases out of four.

Dr. Robert Lee states that in forty-five dissections, the muscular coat of the uterus was softened in ten cases.

Symptoms.—These vary somewhat, according to the epidemic, and a great deal, according to the severity of the attack. In the milder forms, where the disease has not proceeded so far as to disorganise the uterine tissue, I have usually found it to commence on the third or fourth day, and generally with rigors—followed by heat of skin, thirst and headach.

The pulse rises to 100 or 110. The tongue is dry and furred. The countenance expressive of suffering, but without the pinched, drawn-up character we find in puerperal peritonitis.

The patient complains of pain,[5] and tenderness in the uterine

[1] "Astruc, Vigarous and Primrose state that the uterus is liable to be attacked with gangrene and sphacelus; and other authors, particularly Pouteau and Gastellier, have recorded cases where gangrene of the uterus followed acute inflammation of the organ."—*Lee, Diseases of Women*, p. 37.

[2] Siebold's Journal.

[3] Repertoire gen. d'Anatomie, vol. v. p. 1.

[4] Essai sur la Metrite Gangreneuse, 1829.

[5] "In most cases, the patient expresses a sense of great pain in the back, and shooting into the groins, and down the thighs. The lochial discharge is usually much diminished, and sometimes altogether suppressed; and the secretion of milk is for the most part interrupted."—*Dr. John Clarke's Essays*, p. 61.

"As the disease progresses, or rather as soon as the constitutional symptoms commence, the pain extends itself to the back, and down the thighs; and sometimes a pretty severe one is felt beneath the lower part of the ribs on the left side."—*Dewees, Diseases of Females*, p. 364.

region; and upon examination, we find the uterus enlarged, hard, and tender.[1]

The abdomen at first is soft, and without tenderness, which is first felt when we perceive that we are making pressure upon the uterus.

As the disease advances, the abdomen often becomes tympanitic; and in some cases, the inflammation extends to the peritoneum.[2]

The lochia are sometimes suppressed, but often unaltered. The secretion of milk is generally arrested.

Dysuria occasionally causes much distress.[3]

The *severer* form of hysteritis—such as described by M. Tonnellé and Dr. Lee—is ushered in by rigours, followed by increase of heat, and headach. There is occasionally delirium, or other evidences of cerebral disturbance.

The countenance is pallid, anxious, and disturbed. The skin, at first hot and dry, becomes cold, and sometimes of a blue or yellowish tinge.

The respiration is hurried, the pulse rapid and feeble, and there is great prostration of strength.

The tongue soon becomes foul, and the lips covered with sordes. Nausea, vomiting, and diarrhœa, are generally present.

The patient complains of pain at the hypogastrium, where the enlarged uterus may easily be felt, and is tender on pressure.

The lochia are either diminished or suppressed; and occasionally their quality is changed, and they become acrid and fetid.

Hysteritis may terminate—1. *In resolution;* as is the case with the mild variety which I have described, and in which there is a gradual subsidence of the symptoms.

2. In *abscess;* which may open into the uterine cavity, or into the peritoneal sac. I had an opportunity of seeing a case of the latter kind, some time ago, in a patient, whose case has been published by my friend, Dr. Beatty. (Boivin and Duges.[4])

[1] "The patient complains much if any pressure be applied to the uterus. On examination externally, the uterus will be found larger than its common size. It is also harder to the feeling, resembling almost the firmness of a stone."—*Dr. John Clarke's Essays*, p. 60.

"If the fingers be made to press upon the uterus externally, it will be pretty readily distinguished by its size, being greater than is usual at such a period after delivery: by its hardness, (which is very resisting;) and by its unusual tenderness."—*Dewees, Diseases of Females*, p. 363.

[2] "If the inflammatory symptoms should not run very high, the abdomen does not swell; but if they should, then the inflammation attacks the peritoneum, and new symptoms arise, such as take place in the disease to be next considered—and then it becomes a mixed case."—*Dr. John Clarke's Essays*, p. 62.

[3] "Sometimes there is a frequent desire to make water, attended with more or less pain; or there may be a retention of urine; especially if mechanical aid has been required to effect the delivery; and the passing of water is accompanied by a sense of heat, and burning in the urethra and vulva."—*Dewees on Diseases of Females*, p. 363.

[4] "Sometimes, however, there is reason to believe that the abscess opens

3. In *softening*. This termination was observed forty-nine times by M. Tonnellé, and ten times by Dr. R. Lee.[1]

4. In *gangrene*. This has been described by M. Böer, in his valuable work,[2] and by Rieker,[3] and noticed by Siebold, Busch, Boivin and Duges, Danyau, &c.

Morbid Anatomy.—The peritoneal coat of the uterus very often exhibits marks of inflammation. It may be vascular, and coated with lymph, or softened.

Its size is manifestly increased,[4] and its substance soft and flabby. Small collections of purulent matter are sometimes found in its parietes, which in these spots exhibit various degrees of absorption,[5]

The substance of the uterus may be, in patches, reduced to a

within the cavity of the uterus, and escapes through the os uteri; in which case the woman may recover. We have seen two or three instances in which we believe this had occurred."—*Dewees, Diseases of Females*, p. 364.

[1] "Among the 222 fatal cases of puerperal fever, observed by M. Tonnellé, in the Maternité at Paris, in 1829, there were forty-nine in which the muscular tissue was found softened. M. Tonnellé states, that 'softening of the uterus,' after showing itself frequently in the first half of the year 1829, and particularly about January, disappeared entirely in the months of July and August, which were characterised in a remarkable manner by the frequency of inflammation of the veins. Afterwards, it began to rage anew, with great violence, in September and October, and again disappeared in the two last months, during which time the mortality was inconsiderable."—*Lee, Diseases of Women*, p. 38.

[2] Böer, Naturliche Geburtshulfe, vol. i. p. 202.

[3] Siebold's Journal, vol. xi. p. 62.

[4] "On dissection, we had additional and undeniable proofs that the uterus was affected in this complaint; not in some cases from its apparent vascularity, or change of structure, but from its size."—*Campbell's Midwifery*, p. 189.

"Sometimes a purulent, viscous, but fluid deposit, is spread over the uterus, which is immersed in the sero-lactiform fluid diffused through the peritoneum; at other times, false membranes, of some thickness, and large greenish flakes, composed of albumen or fibrine (Lassaigne,) are accumulated between this organ and the bladder on the one side, and the rectum on the other. Sometimes these soft, dun-like, yellow, or whitish concretions, entirely cover the uterus, glueing it to the intestines—and if the affections be of some continuance, they change its form exteriorly, depressing it in some points, and raising it in others, corresponding with the depressions and projections of the viscera with which it is in contact."—*Boivin and Duges, Diseases of Uterus. Heming's Trans.* p. 320.

[5] "Pus is sometimes found even in the substance, and generally nearer to the exterior surface than the interior: this pus collects into distinct abscesses, from one to five inches in diameter—sometimes into a simple or multilocular deposit, with a greenish or viscous appearance; at other times it is infiltrated into the fleshy fibres, imparting to them a yellow reddish colour, perceptible through the peritoneum. In this latter case, tumours form, which are sometimes hard and projecting, upon the fundus uteri—at other times flattened, soft, and broad; these latter come further down towards the lateral parts, and often form a continuation, together with purulent infiltrations, between the laminæ of the broad ligaments, with the cellular tissue of the pelvis, and the substance of the ligament of the ovarian vessels, frequently giving rise to those large abscesses of which we have already spoken."—*Boivin and Duges, Diseases of Uterus, &c.* p. 326.

mere pulp, of a dark purple, yellowish, or grayish colour, and occasionally of a bad odour.[1] This softening generally commences at the inner membrane, and penetrates more or less through the substance of the uterus.

"The point of insertion of the placenta, is the most ordinary seat of all uterine lesion, whether of abscess, softening, or phlebitis; the next point, the large and congested, lead coloured cervix uteri." (Ferguson.)

False membranes of coagulable lymph are found on the lining membrane of the cavity, mixed with blood and lochia.[2]

[1] "Its substance is soft and flabby, and its contractile powers so thoroughly suspended as to present no diminution of its volume. It is as large, ten days after delivery, as it was immediately after the expulsion of the placenta. Small abscesses are found occupying various depths of the uterine walls. There are patches of thoroughly dissolved uterine matter, the softening almost always commencing in the inner surface of the viscus, and sinking towards its peritoneal coat."—*Ferguson on Puerperal Fever*, p. 37.

See also M. Nonat's Essay, in Revûe Med. Franc. et Etrang. 1837.

"M. Tonnellé also states that the disorder in Paris assumed two different forms—the softening of the uterus, properly so called, and the putrescence. In one form, the softening affected only the internal membrane of the uterus, and it presented itself under the appearance of irregular superficial patches, of a red or brown colour, which occupied almost all the points of this surface; its limits were not determined, the diseased tissue passing by irregular gradations, or shades, into the healthy tissue. In the second species, the softening extended deep into the substance of the uterus. The tissue of this organ was so softened that the fingers could not seize it without passing through it in all parts. The superficial softening was combined almost always with some alteration of structure—peritonitis, metritis, or uterine phlebitis; and it did not appear to M. Tonnellé that the existence of these had a very sensible influence on the progress of the symptoms. The softening in the second degree was also sometimes combined with other disorders; but it formed usually the principal alteration, often the only one, and invariably impressed upon the disease the most decided typhoid character."—*Lee, Diseases of Women*, p. 38.

"In other circumstances, where death has followed at a later period, the cervix uteri has presented the same blackish colour, with softening, so as to be easily scraped off with the scalpel, under the form of grayish fetid pap. We have seen a case in which, three months after a difficult labour, the uterus was softish and pale, containing in its interior a fleshy portion, as broad as the finger-nail, and two lines in thickness—a real eschar, detached from an ulceration, with a whitish base, and very nearly of the same size. M. Dupley has given a good account of these circumscribed mortifications—these eschars—which he compares with those made by the caustic potassa. He has observed them frequently in the cervix uteri, and about the superior angles of the body of the uterus."—*Boivin and Duges, Diseases of the Uterus*, p. 325.

[2] "But if this fetor be coincident with a black or blackish colour, arising from the matters which line the uterus; if these matters adhere firmly to the surface, or form a thick layer; if they penetrate the uterine tissue to the depth of several lines; if this tissue, blackened and softened, admits of being torn by the nail, and reduced to pulp by scraping—we may safely conclude that there is a gangrenous state, and infer the previous existence of the disease, called by Böer *putrescentia uteri*, which formed the subject of a *Thesis* presented by M. Luroth, in 1827, to the Faculté of Strasburgh;

The *cause* of this peculiar softening has been much debated—some attributing it to a specific action of the parts, or to alteration of the blood—and others to inflammation; with the latter of whom I am disposed to agree.

Diagnosis.—When complicated with peritonitis, the diagnosis is very difficult;[1] but when the uterus is alone affected, it is easier to distinguish it.

1. From *after-pains, weed, &c.* it differs very widely, in its persistence, and in the gravity of the accompanying constitutional symptoms.

2. From *puerperal peritonitis.* The most marked distinction between them, is the tenderness on pressure; which, when the peritoneal sac is inflamed, is general and superficial, rendering the slightest pressure intolerable; whereas, in hysteritis, the abdomen will bear pressure very well all over, until we ourselves feel that we are pressing the enlarged and hardened uterus. The only exceptions to this rule, I have met with, are those cases of peritonitis where there is no abdominal tenderness.

The pulse in hysteritis is weaker, and the patient sinks more rapidly than in peritonitis; the lochia are also more frequently disordered.

Prognosis.—In the severe form, the prognosis is in almost every case unfavourable; but of the milder cases, I have seen many recover.

Treatment.—In the mild variety, venesection will be necessary, followed by leeches, poultices, and fomentations. The benefit of calomel and opium is seen here, even more strikingly than in peritonitis; most patients recover who are brought fairly under their influence. If the calomel disturb the bowels, it should be omitted, and the opium given alone.[2]

and which M. Danyau named gangrenous metritis, in the dissertation addressed by him, in 1829, to the Faculté de Paris."—*Boivin and Duges on Diseases of the Uterus*, p. 323.

"The inner surface of the uterus is often smeared with a thick layer of gelatinous blood, underneath which, patches of reticulated lymph, tinged greenish, brown, or modena colour, are found. Cruveilhier, Dugès, Seiler, have all looked on this layer as a false membrane, and not the remains of the decidua. I have examined the uterus, to verify this opinion, and I am, on the whole, satisfied of its correctness."—*Ferguson on Puerperal Fever*, p. 38.

[1] "The diagnosis of this variety of uterine inflammation, particularly when it is complicated with peritonitis, or phlebitis, which is frequently the case, is extremely difficult. The prostration of strength, and the alteration of the features, which often exist from the commencement, the frequency and rapidity of the pulse, the irregular, fetid state of the lochia, are not such constant symptoms as to be considered pathognomonic; and they may arise from other causes. The most attentive consideration of the phenomena will only lead to a probability as to the nature of the affection, and sometimes its existence cannot be determined during life."—*Lee on Puerperal Fever*, p. 40.

[2] "The opium may be increased, both in quantity (above half a grain) and the frequency of repetition, so as to quiet the pain, which alone will aggravate the disease."—*Dr. John Clarke's Essays*, p. 70.

When the acute stage has passed, I have seen great benefit from a succession of blisters over the region of the uterus.

The bowels should be kept free; but active purging is injurious.[1] Enemata, of castor oil and turpentine, answer the purpose very well.

None of our remedies seem to have much power over the severe form; but antiphlogistics must be tried in the early stage: subsequently, opium, and tonics, or stimulants, with counter-irritation, are our only resources.

---

4. Inflammation of the Veins of the Uterus. Uterine Phlebitis.—This form of disease has been frequently noticed by authors; amongst others, by Dr. J. Clarke, Mr. Waller, Meckel,[2] Ribes, Louis, Dance, Tonnellé, John Clarke, Burns, Lee, Boivin, and Duges, Ferguson, &c.; and recently in a series of papers on "Metro-peritonite," by M. Nonat.[3]

Nor is it very rare; for M. Tonnellé found pus in the veins in ninety-three cases; and in the thoracic duct in three cases out of 134; and Dr. Robert Lee, in forty-five cases, had twenty-four of uterine phlebitis.

Causes.—Dr. Robert Lee considers that it may be the result of mechanical injury to the uterus, either during the labour, or by the force used to extract the placenta.[4]

[1] "Neither can I recommend a course of purging, as serviceable in the inflammation of the uterus, which follows delivery."—*Dr. John Clarke's Essays*, p. 68.

[2] "All the veins," Meckel observes, "which surround the uterus, the hypogastric trunks, and the vena cava inferior, were greatly enlarged in volume. The place where the placenta had adhered, was distinguished at the posterior part of the uterus by a fungous mass. The veins, whose exterior appearance had arrested the attention, were examined with care; they were separated from the surrounding cellular substance, and in this state the whole system of uterine and spermatic veins presented an extraordinary augmentation of the calibre of the vessels, and thickness of their coats. When opened, there escaped from them a true purulent fluid. The vena cava, where the right renal vein entered, presented a resisting tumefaction, and when laid open, its coats were double the natural thickness, and the cavity was filled with pus, and a polypus formed of pseudo-membranous and puriform concretions."—*De vasorum sanguiferorum inflammatione. Auctore, J. G. Sasse. Halle*, 1797. *Lee*, p. 58.

[3] Revûe Med. Franc. et Etrang. for 1837.

[4] "Uterine phlebitis appears to result from the mechanical injury inflicted upon the uterus by protracted labour, from the force required for the extraction of the placenta in uterine hemorrhage, from retained portions of the placenta undergoing decomposition in the uterus; the application of cold, and perhaps of contagion; or from any of the causes which produce the other varieties of uterine inflammation. M. Dance considers deranged states of the lochia to be a frequent cause of the disease; but these are consequences, and not causes, of uterine phlebitis."—*Lee*, p. 54.

It may follow after hemorrhage, or arise from cold, or the decomposition of retained portions of the placenta.

It may be excited by any of the causes of the other varieties of puerperal fever.[1]

Symptoms.—In women of previous good health, the attack commences generally in twenty-four or thirty-six hours after delivery. The patient complains of pain in the uterus, more or less acute, preceded, accompanied, or followed by rigors.

The uterus is tender on pressure, and the lochia and milk are both suppressed.

There is headache, and slight incoherence—a sense of general uneasiness, and sometimes nausea and vomiting, with acceleration of the pulse.

After a time, these symptoms are succeeded by increased heat of surface, tremors of the muscles of the face and extremities, great thirst, dry brown tongue, frequent vomiting of green fluid, rapid full pulse, hurried respiration, &c.

The head becomes more involved, and we find the patient in a state of drowsy insensibility, or violent delirium and agitation, followed by extreme exhaustion.

The surface of the body assumes a deep sallow, or yellow colour; and occasionally petechial or vesicular eruptions have been observed on different parts of the body.

The pain may or may not increase, but the uterine tenderness is certainly augmented, and the abdomen is often swollen and tympanitic.

In some very rare cases, there is little or no local distress, and the existence of the disease could not be discovered except for the secondary affections. Such is the case with a patient under my care at this moment. She had no uterine pain or disturbance—no

[1] "As to the *causes* under which uterine phlebitis was developed, we found it occurring most frequently—

1. In women who approached the critical age of life, especially if they were primiparous.
2. In women affected with varicose tumours of the thigh and external genital organs.
3. In females who, during pregnancy, were submitted to the influence of depressing passions—fear of exposure, jealousy, sorrow, &c. &c.
4. In individuals, who, from the symptoms they presented, had frequently employed abortive remedies.
5. From mechanical injury of the uterus during pregnancy, especially if it were followed by abortion.
6. In females subject to chronic disease, as cough, difficult menstruation, hemorrhoids, fluor albus, chronic diarrhœa, and constitutional syphilis.
7. After flooding, during or after delivery, especially from placenta prævia; after difficult labours; after obstetrical operations, especially those requiring the introduction of the hand into the uterus.
8. Finally, the greater number of cases occurred in the months of February, March, April, and May, in females who the year before had been attacked by the gripe." (query, cholera?)—*Dr. Bartsch's Report in Lancet*, April 16th, 1836.

tenderness on pressure; and yet, on the seventh day after delivery, a smart febrile attack preceded the formation of a large abscess, near the left elbow joint. Since then, a second has followed, on the top of the shoulder, and a third in the right arm, above the elbow.

The patient may die during the acute stage, but the majority live longer, and exhibit the most interesting phenomena, connected with this variety of puerperal fever, and distinguishing it from all others. I allude to the secondary diseases of other organs.

The *brain*, though often functionally disturbed, (135 in 304, Lee and Ferguson,) is not frequently the seat of organic disease. Its vessels are sometimes congested, and lymph effused in the pia mater, or serum, into the ventricles. According to M. Duges, there is arachnitis once in 266 cases.

Portions of the brain are occasionally softened, (Dance,) and disorganised; or there is purulent infiltration into the cerebral substance. (Lee.)

In the *chest*, we find evidences of inflammation of the pleuræ, effusion of serum of the same character as that in the peritoneal sac, and occasionally effusion of blood.

M. Tonnellé found Pleurisy in 29 cases.
Effusion of serum in 8 ...
Effusion of blood in 6 ...

The *lungs* are often greatly condensed, of a dark red colour, with infiltration of purulent matter. (Nonat.) Or they may be in a state of "complete dissolution, having all the characteristics of gangrene, except in many cases its peculiar fetor." (Ferguson.)

M. Tonnellé found Pneumonia in 10 cases.
Tubercles in 4 ...
Abscess in 8 ...
Gangrene in 3 ...
Pulmonary apoplexy in 2 ...

The symptoms of the secondary affection in these cases, (cough, dyspnœa, &c.,) are but slight, and are completely masked by the more serious primary disease.[1]

"The *heart* is often enlarged, softened, and friable; its inner membrane deeply stained; lymph and serum are also occasionally found in the pericardium. There are white patches on the outer covering of the heart. I have never remarked any peculiar dis-

[1] "In four cases which have fallen under my observation, where there had been only obscure pain during life, with slight cough and dyspnœa, a copious effusion of lymph and serum was found within the cavities of the thorax; the pleura was covered with false membranes, and portions of the lungs had fallen into a state of complete gangrene. In one individual, the pleura had given way by sloughing; and the right side of the chest was found distended with air. Gangrene, also, sometimes takes place rapidly in those parts of the body on which the patient rests; and the same process is established in other soft parts, where no pressure has been made. In a case related by Cruveilhier, which did not prove fatal, the nose became black and gangrenous."—*Lee, Diseases of Women*, p. 49.

organisation of the great arteries; they are often intensely stained." (Ferguson.)

The *intestinal canal* is not frequently the seat of organic change. The mucous membrane of the stomach is sometimes inflamed, softened, and occasionally its coats are perforated, giving rise to peritonitis.[1]

Between the mucous and muscular tissues, there is an effusion of clear reddish serum, when the vomiting has been excessive. (Ferguson.[2])

The mucous membrane of the intestines also, may be softened, and the walls of the canal perforated.

M. Tonnellé found Gastro-enteritis in 1 case.
Enteritis in 4 cases.
Entero-colitis in 1 case.
the stomach softened in 8 cases.
the stomach ulcerated in 5 ...
the stomach perforated in 5 ...

The *liver* is occasionally diseased—its substance may be congested, softened, or contain abscesses. M. Tonnellé met three cases of abscess in the liver.

The structure of the *spleen* may be softened and disorganised. M. Tonnellé relates two cases of abscess.

"The *kidneys* present inflammation of their peritoneal coat, depositions of pus, and flakes of lymph, alterations in their veins, softening, and great engorgement: both kidneys are rarely attacked at once." "The ureters and bladder are more often the seat of pain and congestion, than of disorganised structure."[3]

The *eyes* are also affected. The conjunctiva becomes inflamed, the eyelids swollen, lymph is effused into the anterior chamber, and the sight is destroyed.[4] Cases of this kind are related by Dr. M. Hall and Mr. Higginbottom, although not by them attributed to uterine phlebitis.[5]

The *joints* are attacked by inflammation, and sometimes the

[1] "Duges has remarked that the brown viscid matter, exuding from the perforated portion of the stomach, seems to act on the neighbouring organs like a caustic—adducing as a proof of this surmise, the fact of his finding a continuous series of perforations of the diaphragm, mediastinum, œsophagus, and lungs—all in the immediate vicinity of a perforation of the large extremity of the stomach."—*Ferguson on Puerperal Fever*, p. 36.

[2] "Out of twenty-seven cases collected from Ribes, Bouillaud, Velpeau, and Legallois, I find but six in which this membrane was altered, and twenty-one in which it was quite free from the marks of disease. The principal changes are—1, inflamed patches; 2, softening and perforation; 3, ulceration."—*Ferguson on Puerperal Fever*, p. 35.

[3] Ibid. p. 37.

[4] "In two cases which came under my care, the conjunctiva of both eyes, without much pain, suddenly became intensely red; the cornea opaque, and the eyelids much swollen; and under their lining membrane, a large serous deposition took place; lymph and pus were also effused into the anterior chamber; and in one, the cornea ultimately burst."—*Lee*, p. 50.

[5] Med. Chir. Trans., vol. xiii.

cartilages by ulceration; and the various products of inflammation are found in the capsular ligaments.[1] M. Duges has thus placed the joints in the order of frequency of disease: 1, the hip; 2, the elbow; 3, the knee; 4, the foot; 5, the metacarpus; 6, the shoulder. Dr. Ferguson has found the elbow and knee more frequently affected than the hip.

M. Tonnellé met six cases of abscess of the knee; two of the elbow; and two of the symphysis pubis.

Sero-sanguineous fluid may be effused into the *muscles* or cellular substance of the limbs, giving to them the appearance of erysipelas. M. Tonnellé mentions three such cases.

As to the extent of this infiltration, it is circumscribed within a few inches, or it may extend between two joints, rarely occupying the whole limb.

An *abscess* may be formed in the muscles or cellular membrane of a limb; or a succession of abscesses may occur, as in the case I have mentioned; or the pus may be diffused through the various soft structures.[2]

The quantity is sometimes enormous; the patient suffers much pain, and may be seriously injured, if the discharge continue long.

The symptoms, in the latter case, are those met with ordinarily in abscess, except that at the beginning they sometimes resemble a rheumatic attack.

Morbid Anatomy.—The primary morbid change is evidently in the veins of the uterine region; their coats are thickened, and sometimes so much contracted as to render the canal impervious. The lining membrane is generally paler, and coated with lymph or pus, which may extend to a considerable distance.[3]

[1] "Deposits, or infiltrations of pus, of enormous extent, also take place into the cellular membrane in the neighbourhood of the large joints, and between the muscles of the extremities; the cartilages of the joints themselves become ulcerated, and pus is formed within their capsular ligaments. In a recent case of uterine phlebitis, the cartilage at the symphysis pubis had been removed by ulceration; and a quantity of purulent fluid deposited within the capsular ligaments between the naked extremities of the bones."—*Lee on Puerperal Fever*, p. 50. See M. Nonat, on Metro-Peritonitis, Revûe Medicale, 1837. Also, Dr. Thos. Beatty's paper in the Dublin Journal, vol. xvi. p. 340.

[2] "M. Tonnellé states, that the integuments covering the deep abscesses resulting from uterine phlebitis, are always of a violet colour, or present a peculiar characteristic tension, and shining appearance. The inflammation is not confined to certain defined limits, so as to form circumscribed abscesses; but the pus is diffused, and disappears by an insensible transition into the surrounding parts. When pus is deposited in the muscles, the fibres become of a gray colour, and softened. M. Tonnellé also states that he has frequently seen the pus in little abscesses among the muscles, when their fibres were not altered in appearance."—*Lee, Diseases of Women*, p. 50.

[3] "The lining membrane (of the veins) is very often quite pale, though covered with false membrane, or with pus. Their coats are thickened, and their cavities obliterated or contracted from interval to interval, when the disease extends beyond the uterine substance. When the neighbouring

The disease may be confined to the veins of the uterus, or may involve those of neighbouring parts.[1] The spermatic vein is the one more frequently affected—then the hypogastric; but it may involve the renal veins, as far as the kidneys, or even the vena cava. (Lee.)

It is remarkable, that it is generally the veins of one side only that are affected, and that side is the one to which the placenta was attached.

When the disease affects veins distant from the uterus, the surrounding cellular tissue is hardened, and contains puriform matter.

"In a certain number of cases, no lesion can be discovered in the vein, but the presence of some unnatural fluid. It is disputed whether it is absorbed, or the product of venous inflammation. It is of little moment which of the two opinions be adopted; the disease depends not upon how the matter is produced, but whether it enters the circulation. Whether this be by absorption or by inflammation, puerperal fever is the result." (Ferguson.)

Diagnosis.—It may in many cases be extremely difficult to distinguish this from the other varieties, at least in the early stage.

Generally speaking, the pain and tenderness are more local and limited than in *peritonitis*, and at an advanced period the presence of the secondary disease will at once indicate its true character.

Treatment.—Several cases of this species of puerperal fever appear to defy all our resources. (Lee.) When it is the prevailing characteristic of an epidemic, the vast majority will die. (Ferguson.)

"The two indications," says Dr. Ferguson, "are, 1. To attend to the local lesions. 2. Never to forget that these are not the disease, but merely the effects of a more diffusive, though concealed cause, to act on which our remedies should be directed. The rationale of the treatment, therefore, consists in the exhibition of such remedies as will act on this cause, and such as will alleviate or remove the local affections; taking care that, in our attempt to effect the latter end, we do not so act on the constitution as to give additional energy to the more deadly power of the concealed cause."

veins are affected, the adjacent cellular membrane is hardened or infiltrated; or forms a bed for purulent matter. The uterine veins are often found perfectly healthy when the spermatic or renal, and still more distant, veins are thoroughly disorganised. Besides the presence of pus and lymph in the veins, gritty and gray or light brown coagula are found. The mass of the blood not unfrequently retains its fluidity after death."—*Ferguson on Puerperal Fever*, p. 39.

[1] "It is in the lateral veins, at the point where they are collected together to leave the uterus, and merge into the plexus of the ovarian veins, that this fluid is most commonly found; in some rare instances, all the uterine sinuses are filled, and even distended with it; sometimes there are albuminous concretions mixed with the fluid; even the veins are occasionally obliterated by a yellow concrete matter. When the substance is entirely fluid, the interior of the vessels is of a light rose colour, whitish and smooth, and often even pale and yellowish. We have observed, though only twelve or fifteen times, that this inner surface was uneven, and adherent to the albuminous flakes."—*Boivin and Duges, Diseases of the Uterus*, p. 327.

This rule should direct our employment of leeches, blisters, calomel, and opium,[1] &c. in the early stage, and stimulants and tonics in the latter.

---

5. Inflammation of the Uterine Lymphatics.—This variety of puerperal affection was first noticed in France by M. Dance; and since by Boivin and Duges,[2] Tonnellé, Duplay, Cruveilhier, and Nonat;[3] the former found pus in the lymphatics in thirty-two cases, and in the thoracic duct in three.

In this country, it was first recorded by Dr. R. Lee, in the following case, published in the Medico-Chirurgical Transactions:

"A woman, æt. 30, in an advanced stage of pregnancy, was admitted into St. George's Hospital, July 1, 1829, under the care of Mr. Cæsar Hawkins, in consequence of sloughing of the skin covering a diseased bursa of the patella. The removal of the bursa was followed by great constitutional disturbance, and on the 14th, labour came on. Two days after, symptoms of uterine inflammation made their appearance, and on the 18th day, death took place. Though the pain was relieved by bleeding, she never rallied after the attack. On examining the body, some puriform lymph was found in the pelvis, but there was no increase of vascularity in the peritoneum. In the broad ligaments, some fluid was also effused, and on each side numerous large absorbent vessels were observed, passing up with the spermatic vessels to the *receptaculum chyli*, which was unusually distended. All these vessels, and the reservoir itself, were filled with pus; but that in the receptacle was mixed with lymph, so as to be more solid; the vessels themselves were firmer and thicker than usual. The thoracic duct was quite healthy. The uterus was scarcely contracted, and the internal surface of the lower half was soft and shreddy, and in a state of

[1] "The French physicians, however, are of a contrary opinion, and are satisfied that we possess a powerful remedy, even in the worst cases, in mercury, employed so as to excite salivation. In several cases of uterine phlebitis, I have employed this remedy to a great extent, externally, and speedily brought the system under its influence: yet the progress of the symptoms was not arrested; and the patients died as others had done, when the mercury had not been administered. In other cases, I have employed mercury to a great extent, internally, without the slightest benefit; and it may justly be doubted, from the results of M. Desormeaux's practice, whether or not it possesses the influence M. Tonnellé supposes; for of forty-three cases where mercury was used by him as the chief remedy, only fourteen recovered."—*Lee on Diseases of Women*, p. 113.

[2] "These knotty vessels (the lymphatics) from half a line to a line and a half in diameter, may be seen, in consequence of their injection with fluid pus which distends them, in the whole length of the ligaments which contain the ovarian veins; we have observed the lumbar glands, in some cases, whitened by the pus injected into the vessels; and it has been found even in the thoracic duct."—*Boivin and Duges, Diseases of the Uterus, &c.* p. 329.

[3] Revûe Med. Franc. et Etrang. for 1837.

slough. The upper part, where no pus was found externally, was also healthy, or nearly so, on its inner surface."[1]

The local symptoms are exceedingly obscure, and the constitutional ones, very like those in uterine phlebitis, and quite as severe.[2]

On dissection, the lymphatics are found distended with pus, and generally at intervals, so as to give them a beaded appearance.

The secondary lesions are much the same as in phlebitis.

Treatment.—As yet we know of no remedies capable of controlling the disease.

CHAPTER VII.

RUPTURE OF THE UTERUS AND VAGINA. *Rupture ou Dechirure de l'Uterus*, Fr. *Zerreissung der Gebärmutter*, G.

This formidable, and very fatal accident, has long been known to practitioners in midwifery.

It is not, however, confined to the time of parturition, but may occur during gestation, or at a more advanced period of life.

The frequency of its occurrence varies with different practitioners.

In 10,387 cases	Dr. Jos. Clarke met with	8 cases.
2,947 „	Dr. Merriman „	1 case.
8,600 „	referred to by Dr. M'Keever there were	20 cases.
16,654 „	Dr. Collins met with	34 „
4,180 „	M. Pacaud[3] „	2 „

[1] Med. Chir. Trans., vol. xv. p. 64. Lee, Diseases of Women, p. 46.

[2] "Pour moi, guidé par les mêmes remarques que M. Tonnellé, sans regarder la resorption du pus par les vaisseaux lymphatiques comme impossible, je pense que la suppuration se forme dans les vaisseaux lymphatiques, sous l'influence d'un travail inflammatoire."—*Nonat, Revûe Med. Franc. et Etrang.* September, 1837.

"The local symptoms of this affection are often so obscure as to escape detection during life, while the constitutional symptoms which sometimes resemble in a striking manner the effects produced by specific poisons, are so virulent as not to yield to any remedies, however early and vigorously employed."—*Lee on Puerperal Fever*, p. 48.

"Cruveilhier has attempted to define the effects produced by pus in the lymphatics, as distinguished from those of phlebitis; but after proceeding with a few observations, he throws the matter aside, apparently as inexplicable. There may be, and probably are, some constitutional modifications, whether, in the one case, the vessels of the red, or those of the white blood be the seat of purulent infection; but they are yet to be discovered—neither Breschet in his late work (on the Diseases of the Lymphatics,) nor Cruveilhier having any thing satisfactory on this head. It will be seen, however, that all the effects attributed to phlebitis, strictly so understood, take place equally when the lymphatics alone contain pus."—*Ferguson on Puerperal Fever*, p. 40.

[3] Compte Rendu de la Maternité de Bourg, 1827.

For full details upon this subject, I may refer the reader to the following

Making a total of 65 cases in 42,768 patients—or about 1 in 657.

Dr. Burns says that it occurs about once in 940 cases.

It rarely occurs with first children.

Of Dr. Jos. Clarke's cases—one was the second pregnancy; one was the third; two, the fourth; one, the seventh; one, the eighth, and one, the ninth.

Of Dr. M'Keever's cases—four had two children; five had three; four had six; two had seven; two had eight, and one had nine.

Of Dr. Ramsbotham's cases[1]—two were second pregnancies; one was the fourth, and three were the seventh.

Of Dr. Collins's thirty-four cases—seven were first pregnancies; six were second; six, third; two, fourth; two, fifth; five, sixth; one was the eighth pregnancy; one, the ninth; two were tenth pregnancies, and two were eleventh.

Dr. Cathrall's case was a first pregnancy.[2]

Dr. Sims's patient had had several children.[3]

Dr. Hooper's case was the fourth pregnancy.[4]

Mr. Kite's case was the second pregnancy.[5]

Dr. Frizell's case was the seventh pregnancy.[6]

Mr. Powell's cases was the first pregnancy.[7]

Mr. Birch's cases were the third and fourth pregnancies.[8]

Mr. Partridge's case was the seventh pregnancy.[9]

Thus, of seventy-five cases, nine occurred in the first pregnancy;

works, among others.—Denman's Introduction to Midwifery, p. 260. London Pract. of Midwifery, p. 279. Hamilton's Outlines of Midwifery, p. 76. Burns's Principles of Midwifery. Dewees's Compendium of Midwifery. Garthshore on Rupture of the Uterus. Douglas on Rupture of the Uterus. Goldson's Case of Lacerated Vagina. M'Keever on Rupture of the Uterus, Merriman on Difficult Parturition, p. 111. Jos. Clarke's Report of the Lying-in Hospital, Dublin; Transactions of Association, vol. i. Ramsbotham's Pract. Obs. in Midwifery, part i. p. 377. Collins, Practical Treatise on Midwifery, p. 240. Hamilton's Pract. Obs. part 2, p. 343. Baudelocque, L'Art des Accouchemens, vol. ii. p. 488. Capuron, Cours d'Accouchemens, p. 579. Velpeau, Traité d'Accouch., p. 348; Brussels ed. Nauche, Mal. des Femmes, part i. p. 262. Deparcque, Histoire complète des Ruptures et des dechirures de l'Uterus, &c. 1836. Spiering, die Pratische Geburtshülfe, p. 330, 1801. Hussian, Handbuch der Geburtshülfe, 1827. Osiander, Handbuch der Eutbindungskunst, vol. ii. p. 71. Carus, Gynæcologie, vol. ii. p. 416. Joerg, Handbuch der Geburtshülfe, p. 236. Busch, Lehrbuch der Geburskünde, p. 386. Siebold, Frauenzimmerkrankheiten, vol. ii; Journal, vol. xv. p. 249.

[1] "I have never met with a rupture of the uterus in a first lying-in. The accident has happened, in those cases which I have seen, in a subsequent labour; and sometimes after several difficult births, though living children have been expelled."—*Ramsbotham, Pract. Obs.*, vol. i. p. 383.

[2] Med. Facts and Observations, vol. viii. p. 146.

[3] Ibid. p. 150.

[4] Mem. of Med. Society, vol. ii. p. 118.

[5] Ibid. vol. iv. p. 253.

[6] Trans. of Association, vol. ii. p. 15.

[7] Med. Chir. Trans. vol. xii. p. 537.

[8] Ibid. vol. xiii. p. 357.

[9] Ibid. vol. xix. p. 72.

fourteen in the second; thirteen in the third, and thirty-seven in the fourth, or subsequent pregnancies.

Causes.—Various causes may give rise to it, and it may happen at different periods—

1. *During gestation.* That form of extra-uterine pregnancy which is called *interstitial fœtation*, may give rise to it. The ovum, instead of passing direct from the fallopian tube into the uterine cavity, is retained in an interstice of the uterine fibres, where it grows, up to a certain point. As it increases, the outer portion of the uterine parietes becomes gradually thinner by absorption, (as in the case of abscess,) and at length gives way, and the fœtus is precipitated into the abdomen, converting the case into one of ventral fœtation. (Bush,[1] Dance, Mondiere.)

It may also be the consequence of disease, as in Mr. Else's[2] and Dr. Spark's[3] cases; from softening, and from abscess in the walls, as related by Duparcque.[4]

Any violent accident—such as a fall or a blow—may give rise to it.[5]

It sometimes occurs without any assignable cause; the patient, perhaps, is awakened from sleep by it.[6]

[1] Lehrbuch der Geburtskünde, p. 387.

[2] Med. Gazette, vol. ii. p. 460.

[3] Ibid. vol. iii. p. 218. A similar case was recorded by Dr. Rainey, of this city, in 1766.

[4] Ruptures de l'Uterus, pp. 15, 16.

[5] "Sometimes, the uterus seems to be predisposed to this accident, by a fall or bruise. Reidlinus relates one instance of this. Behling, Steidele, and Perfect furnish us each with another. Salmuthus considers a thinness of the uterus as a predisposing cause of rupture; and Dr. Ross relates a case where it seemed to have this effect, the womb not being above the eighth part of an inch thick, and tearing like paper."—*Burns's Midwifery*, p. 529.

"The uterus may be ruptured by violent accidents happening to the mother in the advanced state of pregnancy."—*Denman's Introduction to Midwifery*, p. 260.

[6] "In the Medical Repository, vol. vii. Mr. Ilot, of Bromley, relates a case of rupture of the uterus in the sixth month of pregnancy. The patient was awakened from her sleep by a sudden pain about the umbilicus. She had no return of pain, but gradually sank and died. On examination after death, a rupture was found at the fundus uteri, through which the *fœtus*, enveloped in its membranes, had escaped into the abdomen."—*Merriman's Synopsis*, p. 112.

The following case, which occurred to Mr. Glen, of Brompton, is related by Dr. Merriman, in the Appendix to his Synopsis, (p. 268:)—"The lady was pregnant of her sixth child, and wanted six weeks to the completion of the full period of utero-gestation; her health was generally good, her habit was rather plethoric; but she was active and temperate. In her former parturitions, she was particularly fortunate in the speedy recovery of her health and strength. This lady was attacked while sitting with her husband in the parlour, and was in the act of stooping, when she suddenly exclaimed: 'My dear, something has given way in my stomach; did you not hear it break?' He endeavoured to persuade her it arose from flatulence. Mr. Glen was sent for, but there did not appear to be any occasion for alarm, and after prescribing some slight medicine, he left her. "In an hour from this time," he continues, "I was sent for in all haste, and was, indeed, shocked

It has been attributed to irregular action of the uterine fibres. (Burns.)

2. *During labour.—a.* If the uterus have been attacked by inflammation during pregnancy; its tissue may have been so much weakened or disorganised, that the violent contractions which take place during labour may rupture it, from the want of consentaneous action in the part affected,[1] or from the pressure of some part of the child against it.

Steidele[2] relates a case where rupture occurred in consequence of gangrene.

My friend, Dr. Murphy, has published an excellent paper, illustrative of this cause of rupture, with cases where the uterus was atrophied, thinned, or softened in texture.[3]

Duparcque quotes cases of thinning of the uterine walls, softening, scirrhus, and gangrene.[4]

In some cases, the seat of the laceration corresponds exactly with the situation of the previous pain.

beyond expression, at the great change in the state of my patient. She was now in bed, extremely restless, her countenance pale, and depicting great anxiety and intensity of suffering—pulse extremely rapid, and evidently sinking; slight nausea; great pain referred to the hypogastric region; constant tenesmus, and a slight discharge of grumous blood from the vagina." The patient died immediately after the extraction of a dead fœtus. A *post mortem* examination was made the next day. "On laying open the abdomen, we found the uterus still there, uncontracted, and presenting nothing unusual in appearance; but on raising the body, and turning it forwards, a rupture was discovered, extending from *fundus to cervix*, through which an immense mass of coagulated blood had passed into the abdomen. We could discover no disease in its texture, and could perceive nothing by which to account for such a deplorable accident, except a very slight extenuation of substance of that part of the uterus which rests upon the bodies of several of the vertebræ, but which latter did not appear to project further than usual."

A case somewhat similar is related in the *Gazette Medicale* for February, 1837. The woman was in the sixth month of pregnancy when she was attacked with uterine hemorrhage. Slight labour pains came on, which produced but little effect upon the position of the child; and during the night, all the symptoms of rupture of the womb came on, and she died the next day. There was nothing discovered at the autopsy to account for the accident.

[1] "Or if the uterus, which had acquired its proper thickness, became affected with inflammation, or any other disease, weakening its power, and speedy in its progress, the texture of the part so affected might be destroyed, and the uterus ruptured, by its own action at the time of labour."—*Denman's Introd. to Midwifery*, p. 260.

[2] Diss. de Ruptû in partus doloribus Utero.

[3] Dublin Journal, vol. vii. p. 198, et seq. I shall extract one or two of his inferences:—

"1. That a perfectly healthy uterus is very rarely ruptured, except from external injury.

"2. That in most of the instances where it occurs, it may be traced to morbid lesion, either previously existing, or produced by inflammation; and even in some cases, where this cannot satisfactorily be proved from inspection, the history of the case would seem to indicate it."

[4] Duparcque, Ruptures de l'Uterus, p. 131, et seq.

The period of labour at which the rupture may occur from this cause, will vary; it may be at the beginning—before the rupture of the membranes, (Duparcque)—during the passage of the head through the pelvis—or after the delivery.[1]

b. A certain amount of narrowing of the upper outlet may give rise to it. This is a purely mechanical cause. The head of the child is forced downwards by violent labour pains, but is unable to enter the pelvis, from the contraction of the upper strait; now if the pains continue with great power, the head is turned to one side or the other, or posteriorly, and the only obstacle here being the uterine or vaginal parietes, the head is driven through them at the weakest part. They offer the less resistance, probably, from the woman having generally borne several children.

In one of Dr. Clarke's cases, the antero-posterior diameter of the upper outlet measured but three inches; in two others three and a half.

In case 18 of Dr. Douglas, the pelvis measured but two inches antero-posteriorly; and in another case (20) there was a bony ridge on the top of the symphysis fubis, to which the rent corresponded.

In one of Dr. Ramsbotham's cases, the antero-posterior diameter was only two inches; in another three inches; and a third had always had difficult labours previously.

In one of Dr. Collins's cases, the same diameter measured two and a half inches; and in several it appeared narrower than usual.

The sex of the child will contribute to the increase of this disproportion—male children having the larger heads. (Clarke.) Now, of the twenty cases mentioned by Dr. M'Keever, fifteen children were males, and five females; and of Dr. Collins's thirty-four cases, twenty-three were males.

The age of the patient does not appear to have any marked influence.

Dr. Collins found one patient of the age of 16 years; one of 21; one of 24; three of 25; two of 26; one of 27; three of 28; one of 29; seven of 30; two of 32; one of 33; one of 34; three of 35; five of 36; one of 37, and one of 40 years of age.

c. The oblique position of the uterus has been assigned as a cause, from its directing the force of the child's head against the side of the cervix uteri and vagina.[2]

d. Some one of the tissues of the uterus may give way previous

[1] "Laceration may take place during any stage of labour, and even before the membranes have burst; but this is uncommon. It may take place when the head has fully extended the pelvis; or in the moment when the child is delivered."—*Burns's Midwifery*, p. 528.

[2] "Sometimes the laceration appears to have been produced from the untoward situation of the *uterus* in the *pelvis;* hence ulceration has taken place, and the fœtus has been transferred into the cavity of the pelvis; and finally discharged through the vagina in return, in a dissolved and putrid state."—*Merriman's Synopsis*, p. 112.

See also Bartholinus de insolitis humani partus viis. Garthshore on Ruptures of the Uterus, &c. Duparcque, Ruptures de l'Uterus, p. 24.

to or during labour; perhaps from previous disease; perhaps from some peculiarity of structure; and in some cases, without any appreciable cause.

Dr. Clarke[1] published a case, in which the peritoneal covering of the uterus alone was torn; and similar cases have been since recorded by Mr. Partridge,[2] Mr. White,[3] Dr. Ramsbotham,[4] Mr.

[1] Trans. of Assoc. for the Improvement of Medical and Surgical Knowledge, vol. iii.

[2] "Mrs. Barr, the mother of six children, was seized about 11, A.M. on Sunday, Aug. 25, 1833, (being then in the beginning of the eighth month of utero-gestation) with abdominal pain, and vomiting of bilious matter. After the lapse of two hours, a watery discharge, mingled with coagulated blood, took place from the vagina. I saw her at 3, P.M., when she appeared pale, faint, and sunk in countenance, like a person suffering from extreme hemorrhage, though the quantity of blood she had lost was inconsiderable." "The sickness continuing, about five o'clock one of her attendants gave her some brandy, which allayed it; but shortly after, labour pains commenced —and about seven, I was sent for in haste: and, on my arrival, found the patient just delivered of twins—each child enveloped in its proper membranes, with the placenta attached. The contents of the uterus were expelled by a single violent contraction, which left her much exhausted." "The pain continued very severe, and I gave her another dose of opium, but without any alleviation of the pain, which increased in intensity till she expired at a quarter before nine."

Post mortem examination. On opening the abdomen, a quantity of thin dark-coloured blood was found, which amounted to about forty ounces. There were no coagula. The uterus was well contracted: and on its anterior part, natural, excepting an enchymose appearance of the cellular texture around the tubes and ovaries; but on the posterior surface, a considerable number of transverse lacerations were discovered, all more or less curved in form, with the convex part towards the fundus, averaging from half an inch to two inches in length, and varying in depth; some were mere fissures, as though made by a penknife. One was particularly large, measuring three inches in length, and nearly two in breadth, in its centre. A flap of peritoneum had fallen down, and the raw and fibrous structure from which it had been torn was exposed as completely as it could have been done by the most careful dissection."—*Mr. Partridge's Case, Med. Chir. Trans.*, vol. ix. p. 72.

[3] "Mrs. W———, æt. 32, well formed, married fifteen years, the mother of eight living children, had nearly gone to the full period of utero-gestation of her ninth child, when, on the 10th December, 1824, she met with some fright that caused her to turn round quickly; she was at the same moment seized with pain in the lower part of the back, which extended round to the abdomen, attended with a sense of faintness, and great palpitation of the heart. She recovered soon from the immediate effects of the shock; and being of a very cheerful disposition, and of a very active turn of mind, no further apprehensions were entertained, either by herself or those about her, although it was observed that she looked paler, and appeared more languid than usual. However, she attended to her domestic affairs, until the morning of the 18th, when, going up stairs, she was attacked with darting pains in the lower abdominal region, attended with a peculiar sensation which she could not well describe; she became agitated, pale, and ghastly. A late eminent accoucheur was immediately sent for, who found her labouring under great difficulty of breathing, threatening suffocation, pain of her heart, pulse quick and fluttering; there was no appearance or symptom of her labour coming on; and seeing her situation becoming more alarming, Dr.

Chatto,[1] and Dr. Davis.[2] Dr. Collins has also met with a case of this kind.

Mr. Radford published two cases in which the muscular coat was torn—the serous membrane remaining uninjured.[3] Dr. Ramsbotham met with a case nearly similar; and Dr. Collins met with nine such cases.[4] Duparcque relates two, and Velpeau one.

Though the extent of mischief is less in these cases, yet they are equally fatal.

e. Violence in turning the child may give rise to it,[5] and it may accompany this operation, in certain states of the cervix, without any fault of the operator.

f. Rigidity of the os uteri, or imperforation, may occasion laceration.[6] (Perfect.)

g. There are several cases on record where the os uteri has been torn completely off during labour. Steidele[7] and Mr. Scott, of Norwich,[8] have each recorded one, and three others occurred in this

Cheyne was called in consultation. About nine, P.M., Mrs. W——— was seized with labour, and after a few feeble uterine pains, she was delivered of a full-grown still-born male child; but in less than three quarters of an hour, she gradually sunk and expired."

Post mortem examination. "*Abdominal cavity.*—On opening the abdomen, a large quantity of fluid blood was found in the vicinity of the uterus, the broad ligaments of which were injected with blood; the uterus had not contracted; the right ovarium was much enlarged, and contained two hydatids of considerable size; on the anterior surface of the uterus were two long tears or lacerations, and one of a smaller size, through the peritoneal coat, and also through a few superficial fibres of the uterus, from which the blood had issued. All the other parts, both of the pelvis and abdominal cavity, were perfectly sound; and on opening the cavity of the vagina and uterus, nothing was observed but what is usual after parturition."—*Mr. White's Case*, *Dublin Journal*, vol. v. p. 325, (1834.)

[4] Pract. Observations, vol. i. p. 409.

[1] Mr. Chatto has related a similar case. "The rupture occurred after the commencement of labour at the full time, and was attended with the usual symptoms. The patient died six hours after delivery. Upon examining the body, a large quantity of blood was found effused into the abdomen. The posterior surface of the uterus, near the fundus, was found ruptured to a considerable extent; and near this laceration, were found three or four smaller cracks. These lacerations extended but a very short distance into the muscular structure. The inner membrane was found entire."—*London Med. Gazette*, 1832, p. 630.

[2] Obstetric Medicine, vol. ii. p. 1067.

[3] London Med. and Surg. Journal, vol. ii.

[4] Pract. Treatise on Midwifery, p. 306.

[5] "If the uterus be strongly contracted, it may be ruptured also by attempts to pass the hand, for the purpose of turning the child; but in this case, a rupture could only happen when the force with which the hand was introduced, was combined with the proper action of the uterus; for the strongest person has not the power to force his hand through a healthy and unacting uterus."—*Denman's Introduction*, p. 260.

Also, Duparcque, Ruptures de l'Uterus, p. 187.

[6] Carus, vol. ii. p. 439. Hamilton's Cases, p. 138.

[7] Wasserberg's Diss. F. 1. Com. Lip. xxi. p. 518.

[8] "The patient had been in labour about thirty-nine hours, with rigid os

city, within a short time of each other.' It appears to be the result of pressure at the brim of the pelvis, rendering the texture of the cervix soft, and easily torn.

3. *At an advanced period of life.* The structure of the cervix uteri is much changed in old age; it becomes close and dense, resembling cartilage, and the canal through it is always reduced in size, and sometimes obliterated. When the outlet for the escape of the uterine mucus is thus closed, it accumulates; and if the quantity be sufficient to distend the cavity, a process of thinning or absorption commences in some part of the walls of the uterus, and proceeds until an opening is made into the peritoneal sac.

The same process will take place with any other fluid thus deprived of exit. Duparcque quotes two cases of the kind.[2]

Among the *direct causes*, are enumerated blows, falls, anger, convulsions, excessive movements of the child, over-distention, &c.

uteri, when she felt something snap, or, to use her own words, 'that the web of her body had given way.' The pains ceased suddenly, a discharge of blood followed, with fainting, cold sweats, feeble pulse, and vomiting of a brownish fluid. Among the coagula, Mr. Scott discovered a substance which was pronounced by competent judges, 'to be a portion of the uterus containing the os uteri, and an irregular part of the cervix surrounding it.'" "By great care and attention, the patient recovered; and upon examination, *per vaginam*, three weeks after delivery, Mr. Scott found a continuous cavity, without any distinction, between vagina and uterus."—*Med. Chir. Trans.*, vol. xi. (1821.)

[1] At a meeting of the Dublin Obstetrical Society, April 4th, 1839, Dr. E. Kennedy exhibited two os uteri which had been torn off during labour, and stated the following particulars: "Catharine Kelly was delivered in the hospital of her sixth child, on the 7th of March, 1839, after a labour of seven hours; ten hours after delivery, attention was directed to a fleshy substance, protruding from the vulva, which made its appearance after the expulsion of the placenta. It was found connected with the os uteri anteriorly, and to the right side, and was evidently two thirds of the labia of the os. The remainder he separated by torsion, and the whole was found completely to correspond to the neck of the uterus. No hemorrhage or constitutional symptoms followed. The other case (that of Curtis, pregnant for the first time) was one of tedious labour, arising from a congested and undilatable state of the os uteri, with a pelvis of rather under-sized dimensions. On the 1st of April, at 10, A.M., os dilated to size of half a crown, and beginning to be œdematous, pains frequent, waters discharged; tartar emetic was given with little effect. On the 2d, at 10, A.M., os two thirds dilated, very much congested, of a deep purple colour, pains not frequent, anterior lip scarified. At 9, P.M., os somewhat more dilated posteriorly; head had descended a little. An attempt was made to support with the fingers the anterior lip during the pains; the posterior part spontaneously separated and appeared without the vulva. The remainder Dr. Kennedy removed. She had a tedious convalescence."—*Dublin Journal*, vol. xvi. p. 154.

A similar case occurred in the practice of Mr. Hugh Carmichael, of this city, and is related by his colleague, Mr. Power. "The os uteri was undilatable; and after many hours labour, it was determined to perforate the head; but just then, a violent pain occurred, which tore off a circle of the cervix, and expelled the head."—*Dublin Journal*, vol. xvi. p. 54.

[2] Ruptures de l'Uterus, pp. 13, 14.

In one case, M. Malgaigne attributed it to the mal-administration of ergot of rye.

Morbid Anatomy.—If the laceration be the result of disease, it may take place at any part of the organ—the body, fundus, or cervix; and it will generally be found to correspond to the situation of the pain felt by the patient previously. The edges of the rent exhibit marks of disease, the tissue is thinned, softened, and pulpy, breaking down easily under the finger.

The colour may be changed to a deep red, or brown colour, and occasionally the odour is offensive.

When the laceration is the result of mechanical causes, it generally takes place near the cervix, and involves both the uterus and vagina.[1] It may run along the anterior or posterior surface of the uterus, or at one side. In six of Dr. Jos. Clarke's cases, it was on the anterior surface, and in one, posteriorly. In Dr. Sims's and Hooper's cases, it was anteriorly; in Mr. Birch's posteriorly; and in Mr. Cathrall's case, on the right side. In three of Dr. Ramsbotham's cases, it was posteriorly; in one along the right side; and in another along the left. Of twenty-three cases, Dr. Collins found one on the right, and one on the left side—eleven posteriorly, and ten anteriorly.

The direction of the rent may be nearly perpendicular, or inclining to one or other side, or running transversely. (Douglass, M'Keever, Collins.)

In these cases, the structure of the uterus is scarcely altered; its texture is firm, and its colour natural, except where blood is ecchymosed.

The edges of the rent are jagged and uneven.

Occasionally, but very rarely, the bladder has also been torn. (Douglass, Davis, Duparcque, Soussa, Ferras,[2] Lecieux.[3])

When the serous membrane alone is injured, we find numerous small incisions, resembling scarifications, (Clarke, Chatto,) from a quarter to half an inch in length, and one or two lines in depth, or a smaller number of larger lacerations. (Partridge, White.)

They are almost always curved, with the convex part towards

[1] "The part of the uterus which generally gives way, whether posterior, which is most common, or anterior, or lateral, is usually near the union of the cervix with the vagina, in which such a change is made at the time of labour, when the os uteri is completely dilated, that the distinction between them is lost, the vagina and uterus forming together one cavity, though of unequal dimensions."—*Denman's Introduction*, p. 260.

"Any part of the uterus may be torn; but generally the rupture takes place in the cervix, and the wound is transverse. It is more frequently in the posterior than the anterior part; but either may be torn. It is rare that it is confined to that side. Perpendicular rents are not common; and when they do occur, the hemorrhage is generally not so great as in the transverse."—*Burns's Midwifery*, p. 527.

[2] Archives Gen. de Med. vol. xviii. p. 109.

[3] Laennec-Piquet, These, 1822, Paris.—Velpeau.

the fundus, and may be situated on the anterior (White) or posterior wall of the organ, (Clarke, Chatto.)

In all the cases hitherto mentioned, more or less blood is found effused in the peritoneal sac, and in many, the usual products of peritonitis.

When the muscular structure alone is injured, it may present either a simple solution of continuity, or evidences of disease. Blood may be found in the cavity of the uterus, and the serous membrane may become inflamed, with the usual results.

The cervix uteri, when separated, has generally a bruised appearance; is swollen, and of a red colour. The edges are ragged and uneven. The canal of the vagina is rendered continuous with that of the uterus, but the connection between them is not compromised.

When the uterus of an old person is ruptured, from the cause assigned, we shall discover a perforation in some part of it, with a considerable thinning of the walls around it.

In all these cases—with the exception of those in which the os uteri is torn off, or the muscular structure alone injured, we find marks of extensive peritonitis, unless the patient die of the shock.

Symptoms.—These vary very slightly, whether the uterus be torn completely through, or whether the peritoneal or muscular tissues alone be injured.[1]

Certain authors have pointed out what they deem premonitory symptoms; but these are exceedingly ambiguous. The circumstances which may justly excite our fears are—the occurrence of partial hysteritis during gestation; and during labour, the coincidence of violent labour pains with a narrow pelvis.

Rupture of the uterus and vagina is marked by a sudden, acute, and intolerable pain like a cramp; a sense of some part bursting, giving way, or tearing, with an audible noise, according to the testimony of the patient; the suspension of the labour pains; hemorrhage from the vagina; and a rapidly succeeding state of collapse.[2]

[1] "A rupture of the peritoneal coat of the uterus sometimes happens, without extending itself into the uterine structure. Under this occurrence, we observe all the symptoms of actual rupture of the uterine structure itself, in a diminished degree, except those connected with the escape of the child." —*Ramsbotham's Pract. Obs.*, vol. i. p. 382.

[2] "The rupture of the uterus is accompanied with a sense of something giving way internally, always perceptible by the patient, and sometimes audible by the attendants."—*Denman's Introduction*, p. 261.

"Certain symptoms take place, which are evidences of its having happened; one is a sensation of a sudden and most excruciating pain, which always comes on at the moment of rupture." "This state of pain is succeeded by faintness, from two causes, hemorrhage and pain."—*London Pract. of Midwifery*, p. 280.

"The rupture is said sometimes to be accompanied by a noise which has been distinguished by the by-standers; a discharge of blood of greater or less extent is found to take place from the vagina—her face becomes cold and pale—her respirations hurried—she is sick at stomach, and most frequently vomits—the matter discharged is sometimes the common contents of

Of these symptoms, the excruciating pain and the collapse are the most constant, as in some cases the bursting or tearing is not felt;[1] and when only one tissue suffers, the labour may continue, and there may be no hemorrhage.[2]

The pain continues, with little or no intermission. The stomach is disturbed, and vomiting ensues—at first, of the contents of the stomach; then of a greenish, and ultimately of a black matter—the "coffee-ground vomit."

The countenance is pale and ghastly, with an expression of intense suffering and anxiety; the surface is cold and clammy.

The pulse is very rapid, small, feeble, and fluttering; the respiration hurried and difficult; and the patient desires to be raised in bed.

There is almost always a discharge of blood from the vagina; sometimes slight, and at others so considerable as to cause death.[3]

We know, also, from *post mortem* examination, that in most cases, hemorrhage takes place in the abdominal cavity; and some authors have attributed the state of collapse to this cause; but though it may aggravate the collapse, we know that this is present when there is no internal hemorrhage.

the stomach; at others times it consists of a very dark even black-coloured substance, resembling coffee grounds—the pulse is extremely frequent, small, fluttering, or extinct—she complains of a mist before her eyes; loss of sight, and extreme faintness—a cold clammy sweat bedews the whole surface of the body, and if not speedily relieved, convulsions and death follow."—*Dewees's Compendium*, p. 563.

[1] "Rupture of the uterus may take place, without being attended with that sensation of tearing, or giving way, described by our author. In two cases which have come under the observation of the editor, this symptom was absent; the period at which the rupture happened not being marked by any peculiar sensation. Both these patients complained throughout the labour, of intense lancinating pain just behind the symphysis pubis. On opening the body of one of them, the laceration was found to be there situated. In the other case, no examination was allowed. One of these females died immediately, from the accompanying hemorrhage; the other lived till the following day: in the latter case, very extensive inflammation had been set up."—*Waller's Note in Denman's Introduction*, p. 262.

[2] "We are not to expect, however, that in every instance the symptoms will be so obvious, or so well defined as those I have stated. Thus, where the head is low down, firmly impacted in the pelvis, and that the injury is confined to the muscular substance of the uterus, its peritoneal covering continuing entire, we are deprived of several of the leading marks. In the first place, there will be no hemorrhage *externally*, in consequence of the vagina being blocked up; secondly, there will be no receding of the presenting part; and lastly, we will be unable to distinguish any part of the infant under the abdominal parietes."

"Even the constitutional disturbance, I have on some occasions known to be so very trifling for many hours, nay, even for some days, as to excite considerable doubts about the real nature of the case."—*M'Keever, Rupture of the Uterus*, pp. 9–13.

[3] "Cette hemorrhagie peut etre comme foudroyante, la femme perit subitement soit avant la deliverance, soit immediatement apres, sans qu'aucun signe ait fait soupçonner la rupture."—*Duparcque, Ruptures de l'Uterus, &c.* p. 162.

When the rupture is complete, the expulsive efforts cease, because the child escapes partially or wholly from the cavity of the uterus, into the abdominal cavity, where it may be felt by the hand through the abdominal parietes. (Dewees,[1] Duparcque.[2])

The presentation, which was probably within reach before the accident, cannot now be ascertained by the finger.

When the rupture is complete, a loop of intestine may escape through it, and give rise to the symptoms of strangulated hernia. Duparcque quotes three cases of this kind from Remigius, Percy, and Beauregard.[3]

A case is related by Dr. M'Keever, where a yard and a half of intestine became strangulated, and sloughed off.

This state of collapse may continue for some time, if it do not prove fatal; but at length a certain amount of reaction takes place; inflammation sets in, and the patient exhibits all the symptoms of peritonitis—acute pain, exquisite tenderness of the abdomen on pressure, tympanitis, decubitus on the back, with the knees drawn up, quick, small, hard pulse, hurried respiration, &c. &c.

Terminations.—The patient may die of the shock a few hours after the accident, or after delivery;[4] or she may survive the shock, and die of the peritonitis;[5] or lastly, she may be carried off by secondary diseases, as sub-peritoneal, lumbar abscess, &c. (Collins, Duparcque.[6])

Of Dr. Jos. Clarke's patients—one died undelivered; one died in four hours; one, in twenty hours; two in twenty-four, and one in thirty hours.

[1] "When the abdomen is examined by the hands externally, the fœtus, if the rupture be complete, may readily be distinguished through its parietes; if the fœtus cannot be thus detected, it is presumable that it has not escaped entirely from the uterus; but we are to ascertain this by a careful and more extensive examination."—*Dewees's Compendium*, p. 565.

[2] Ruptures de l'Uterus, p. 159.

[3] Duparcque, Ruptures de l'Uterus, &c. p. 165.

[4] "The interval which elapses between the accident and the death is various; but whether the patient be delivered or not, she, notwithstanding the many recorded instances of recovery, generally dies within twenty-four hours: often in a much shorter time. Steidele, however, relates a case where the patient lived till the twelfth day. Dr. Garthshore's patient lived till the twenty-sixth; and in the Coll. Soc. Havn., vol. ii. p. 236, there is the case of a woman, who, after being delivered, lingered for three months. In a patient of Dr. J. Wilson's, recovery seemed to be going on for five or six days, when, after a fit of passion, she sunk in consequence of internal hemorrhage."—*Burns's Midwifery*, p. 531.

[5] "The death of the patient usually follows soon, though not immediately after the accident; but I have seen one case, in which there was reason to believe that the woman walked a considerable distance, and lived several days after the uterus was ruptured, before her labour could be properly said to commence."—*Denman's Introduction*, p. 261.

[6] "Dr. Monro's patient was sitting in a chair, when she suddenly screamed, and the uterus was lacerated; she was not delivered, but lived from Tuesday till Friday.—*Burns's Midwifery*, p. 528.

Of Dr. Ramsbotham's—three died shortly after delivery; two in one hour, and one in three days.

Of Dr. Collins's cases—four women died immediately after delivery; one died in two hours; three, in four; one, in ten; two, in fourteen; one, in seventeen; one, in twenty-four; one, in twenty-five, and one in thirty hours; four died on the second day; one, on the third; four, the fourth; one, the fifth; two, the eighth; one, the ninth; one, the eleventh; one, the fourteenth, and one on the twenty-fourth day.

In by far the greater number of cases, the accident proves fatal.

Of Dr. Smellie's three cases, two died; Dr. Jos. Clarke's eight, seven; Dr. Merriman's one, one; Dr. M'Keever's eleven, nine; Dr. Ramsbotham's ten, ten; Dr. Collins's thirty-four, thirty-two; and of Dr. Beatty's one, one died.

Some cases, however, are on record where the patient recovered. Heister relates a case mentioned to him by Rungius; and Spiering, one cured by Forquosa. M. Peu,[1] Dr. Hamilton,[2] Dr. James Hamilton,[3] Dr. Jos. Clarke,[4] Dr. Douglass,[5] Dr. Labatt,[6] Dr. Frizell,[7] Mr. Ross,[8] Mr. Kite,[9] Mr. Powell,[10] Mr. Birch,[11] Mr. Smith,[12] Mr. MacIntyre,[13] Dr. Hendrie,[14], Mr. Brook,[15], Dr. Davis,[16] have each recorded one case of cure.

Dr. M'Keever,[17] and Dr. Collins,[18] have each related two. Duparcque has collected four from French authorities.[19]

Osiander states that he has known several cases of recovery.[20]

Velpeau quotes several cases.[21].

'There are a very few instances on record where the patient has recovered, although the fœtus remained in the peritoneal cavity." (Duparcque.[22])

In cases of interstitial fœtation, also, the patient has sometimes survived both shock and inflammation.

[1] Pratique des Accouch. p. 341.
[2] Outlines of Midwifery.
[3] Select Cases in Mid. p. 138.
[4] Trans. of Association, vol. i.
[5] Essay on Rup. of the Uterus, p. 7.
[6] Dublin Med. Essays, p. 343.
[7] Trans. of Association, vol. ii. p. 15.
[8] Annals of Med., vol. iii. p. 377.
[9] Mem. of Med. Soc., vol. iv. 253.
[10] Med. Chir. Trans. vol. xii. p. 537.
[11] Ibid. vol. xiii. p. 357.
[12] Med. Chir. Trans. vol. xiii. p. 373.
[13] Med. Gazette, vol. vii. p. 9.
[14] Am. Jour. of Med. Sci., vol. vi. p. 351.
[15] Med. Gazette, Jan. 17, 1829.
[16] Obstetric Medicine, vol. ii. p. 1070.
[17] Ess. on Rup. Uterus, p. 41, et seq.
[18] Pract. Treatise, p. 248.
[19] Rupture de l'Uterus, p. 265, et seq.
[20] Handbuch der Entbindungskunst, vol. ii. p. 84.
[21] M. Ersille enumerates, in addition, the following cases of recoveries from rupture of the uterus:—"One by M. d'All'Ara, of Ravenna, at the third month; one by M. Bengo, at seven months; one by M. Stein, at seven months; one by M. Wetz, at seven months; one by Sommer, during labour, &c. &c."—*Velpeau, Traité d'Accouch., Brussels ed.*, p. 356.
[22] Ruptures de l'Uterus, p. 87, et seq.

Diagnosis.—The sudden acute pain; the cessation of labour; the collapse; and the recession of the child,[1] will render it easy to recognise the case.

But when the rupture is partial, it may be more difficult; and we must rely mainly upon the sudden pain, and the collapse for our diagnosis. The occurrence of peritonitis subsequently, will serve to clear up the difficulty.

The sudden occurrence of peritonitis in old women, may excite a suspicion of its origin; but it will not be easy to arrive at certainty in our diagnosis.

Prognosis.—From the details already given, it is almost unnecessary to state, that the prognosis is always grave. So very few are saved that there is but a faint hope of the recovery of the patient.

Treatment.—The first question which presents itself, when a rupture of the uterus is recognized, is, "shall the patient be delivered at once, or left to nature?" When the os uteri is undilated, instant delivery may be impossible:[2] but in all cases where it is possible, the testimony of experience is in favour of immediate delivery. (Denman, (early edition,) M'Keever, Burns,[3] Dewees,[4] John

[1] I am indebted to the researches of my friend, Dr. Aquilla Smith, for the following extract from the "Manuscript Memoirs of the Medical and Philosophical Society of Dublin," which gives the credit of the discovery of this diagnostic sign of rupture of the uterus, to Dr. Fleury, of this city. After reading (7th December, 1775,) two cases of ruptured uterus, Dr. F. says—"Although it be unphilosophical, and in many cases extremely dangerous, to draw general conclusions from particular instances, I am nevertheless inclined, from the consideration of these two cases, and the mechanism of delivery, to conclude that the *receding* of the child, which presents by the head, so far as to be no longer within reach of the operator's fingers, after having been distinctly so for some time, and the os tincæ fully dilated by labour pains, a pathognomonic sign of a ruptured uterus."

[2] "I was called to a very extraordinary case, in which the part where the vagina and uterus are united, was ruptured; the child remaining in the cavity of the uterus, the os uteri being little dilated. Here, my advice was, not to attempt to deliver, because so much force would be required for dilating, that it was feared the uterus would be completely torn from the vagina before the hand could be passed into the uterus—at least before the child could be extracted; and then the case would have been more horrible."—*Denman's Introduction*, p. 262.

[3] "This process is usually easy, when the rent is in the cervix uteri or the vagina. When the rent is higher, there is sometimes great difficulty, owing to the contraction of the uterus, which may be affected spasmodically, or may have universally contracted, and the rent become very small." "It would be both cruel and useless to attempt delivery in such a case."—*Burns's Midwifery*, p. 532.

[4] "Upon a review of an equal number of cases of those who were delivered after rupture, and those who were not delivered, it was found that those women who were delivered, lived much longer on the average, than those who were not delivered. Now, if death be suspended by our efforts, it will follow—it becomes a duty to make them; and if we add to this what we have very confidently asserted, that there is no instance of recovery where delivery has not been performed, we must terminate this first part of our enquiry by declaring it is almost always proper to interpose art in cases of ruptured uteri."—*Dewees's Compendium of Midwifery*, p. 559.

Clarke,[1] Jos. Clarke,[2] Hamilton,[3] Merriman,[4] Ramsbotham,[5] Collins, Spiering, Osiander, Carus, Busch, Siebold, Baudelocque, Capuron, Gardien, Boivin, Velpeau, Nauche, Duparcque.)

And the cases of recovery confirm this decision; for in all, but one or two,[6] the women were delivered. (Hamilton, Jos. Clarke, Labatt, Douglas, Garthshore, Frizell, Kite, Ross, Powel, MacIntyre, Birch, Smith, Hendrie, Brook, M'Keever, Collins, Lachapelle.)

Dr. W. Hunter and Dr. Garthshore advised that the case should be left to nature; and subsequently to the publication of his Introduction to Midwifery, Dr. Denman came to the same conclusion. The evidence of facts, however, must be allowed to counterbalance even such illustrious names; and that evidence is unquestionably in favour of delivery.

The *mode* of delivery will depend altogether upon the circumstances of the case.

1. If the head have not receded, and be within reach, or be already in the pelvis, it will be well to deliver with the forceps if possible; but if not, we must have recourse to the perforator.[7]. It is an argument of weight in favour of trying the forceps, that in these cases the child generally lives for some time after the accident.

2. If the child have escaped into the cavity of the abdomen, the hand must be introduced into the vagina, and, if practicable, passed through the laceration, and the feet seized and brought down, so that the child may be extracted through the rent.[8]

[1] London Practice of Midwifery, p. 281.

[2] Transactions of Association, vol. i.

[3] Outlines of Midwifery.

[4] "I must believe that either of these plans is to be preferred, according to circumstances. If in a case of this kind, it should be found that the child had only in part escaped into the cavity of the abdomen, I should consider that it was the best practice to bring down the feet, if they were within reach, or to deliver by means of the forceps, if the situation of the head allowed of the application of these instruments. And even if the child had been wholly forced through the rent, that it would be expedient to extract it by the feet, provided the accident had not been of long duration, and there was a ready passage for the hand into the cavity of the abdomen; but if some hours had elapsed, after the parts had given way, or if there were a difficulty in passing the hand, on account of the contraction of the uterus, it would then, perhaps, be more prudent to leave the event to nature."—*Merriman's Synopsis of Difficult Parturition*, p. 115.

[5] Pract. Obs. in Midwifery, vol. i. p. 385.

[6] "Dr. Naegelé, jun. has recorded a curious case of ruptured uterus, in which neither delivery *per vias naturales*, nor gastrotomy were attempted. Part of the child was discharged per vaginam, and part through the abdomen, and the woman recovered."—*Brit. and For. Med. Review*, vol. v. p. 581.

[7] "With regard to the perforator, I have only to observe, that in order as much as possible to guard against the retrocession of the head, the opening in the cranium should be made, not in the most prominent point of that cavity, as in ordinary cases, but rather to one side—so that the force employed in perforating may be directed, not towards the axis, but rather against the walls, of the pelvis."—*M'Keever on Rupture of the Uterus*, p. 31.

[8] "Of the thirty-four cases, four were delivered by the natural efforts;

The placenta is then to be removed,[1] the vagina cleansed, &c. In all these cases the child is born dead.

3. If the uterus have contracted very firmly, it may be impossible to pass the hand through the rent; or the pelvis may be too narrow to admit of the child being extracted footling, or even of the passage of the hand.

4. In such cases we are advised to perform the Cæsarian section, and extract the child and secondines through the abdominal parietes.[2]

Successful cases are related by Thibault des Bois,[3] Lassus,[4] Haden, Baudelocque, Latouche and Jopel,[5] Lambron, Glodat,[6] &c. (Duparcque.[7])

nineteen by the crotchet; in seven the children were brought away by the feet; in two the delivery was effected by lessening the thorax, and bringing down the breech; and in two, the mode of delivery has not been stated."—*Collins's Practical Treatise on Midwifery*, p. 247.

[1] "After the delivery of the infant, the placenta will in general be found lying detached in the vagina: having removed it, as also any loose clots of blood that may remain in the passages, we next examine whether any portion of intestine has become protruded through the rent; and if so, we cautiously return it into the abdomen, following it with our fingers for some distance within the lips of the wound."—*M'Keever on Rupture of the Uterus*, p. 31.

Dr. M'Keever has related a remarkable case, in which a large portion (one yard and a half) of intestines sloughed, and came away. The patient recovered.—p. 44. See also Deparcque, Ruptures de l'Uterus, p. 95.

[2] "When either the body or fundus, or both, have suffered, and the child has escaped into the abdomen, the delivery, per vias naturales, may be either difficult or impossible, even in a well-formed pelvis; for the uterus will most probably contract itself so much as to render the re-passage of the child impracticable; the only chance in this case is the immediate performance of gastrotomy; but should a contracted pelvis complicate this case, the latter operation is the only alternative. But should the uterus remain flaccid, and its mouth yielding, and the pelvis well formed, we may succeed, though with difficulty, through the natural passages; but if this flaccid state of the uterus be attended by a deformed pelvis, the abdominal section is the only resource."—*Dewees's Compendium*, p. 567.

"It may happen that great deformity of the pelvis prevents delivery. In such circumstances, we must either perform the Cæsarian operation, or leave the case to nature. If we have been called early, and before the abdominal viscera have been much irritated by the presence of the fœtus, we ought to extract the child by a small incision. This is assuredly safer than either leaving the child, or bringing it down, either with or without perforation, through a contracted pelvis."—*Burns's Midwifery*, p. 533.

[3] Journal de Med. Mac. 1768.

[4] Pathologie Chirurgicale, vol. ii. p. 237.

[5] Quarterly Journal of Foreign Medicine, vol. ii.

[6] Mondiere's Essay in Revûe Med. Franç. et Etrang, Dec. 1837.

M. Mondiere quotes a very remarkable case of a woman who had the Cæsarian section performed, on account of narrowness of the pelvis. She became again pregnant: and at the seventh month, the cicatrices of the former incision gave way, and she was delivered through the wound.—*Revûe Med. Franç. et Etrang*, December, 1837, p. 28. Encyclographie, January, 1838.

[7] Ruptures de l'Uterus, p. 289.

To these may be added cases related by the following:—MM. Coquin,[1] Sommer,[2] Ceconi,[3] Ruth,[4] Rust,[5] Gais, Naegelé, Weinhardt,[6] Heim,[7] Busch, Demay,[8] Lechaptois et Lair,[9] Velpeau.[10]

6. This will be the only mode of delivery, in ruptures occurring during gestation, before labour has commenced.

During the stage of collapse, it may be necessary to give stimulants—ammonia, camphor, musk, wine, &c.: but this should be done with great judgment, so as just to attain our object, and no more; bearing in mind, that whilst we may be relieving the collapse, we may be aggravating the reaction, and increasing the danger at that period.

A large dose of opium may be given after the delivery.

When inflammation sets in, of course the treatment must be actively antiphlogistic. Three or four dozen leeches should be applied over the abdomen, and repeated if necessary.

Large bran poultices are useful, and hip baths are recommended. Calomel and opium, or opium alone, is the most valuable remedy we possess. It should be given in large doses, or in smaller ones more frequently, so as to influence the system rapidly.

If the rupture have arisen from narrowness of the upper outlet of the pelvis, and the patient recover, and again become pregnant, premature labour should be induced, at such a period of gestation as will allow the fœtus to pass without difficulty. It is of course desirable that the operation should, if possible, be deferred until the fœtus is 'viable;' but I do not think this a "sinè quâ non," as it may be worth while sacrificing the child to save the mother. Dr. Collins relates a successful case of this kind, in which the patient was delivered the first time by artifical premature labour, and afterwards naturally. In Dr. Douglas's case, the patient was delivered by turning, the first pregnancy after the accident, and naturally the second.

It would, however, be much wiser for the patient to avoid the risk of a subsequent delivery.

[1] Bulletin de la Faculté, 1812, p. 86.
[2] Bulletin de Ferussac, vol. v. p. 47.
[3] Ibid.
[4] Ibid, vol. vi. p. 280.
[5] Luroth, Ibid, vol. xix. p. 85.
[6] Ibid.
[7] Ibid.
[8] Journal Gen. vol. v. p. 58.
[9] Journal Gen. vol. i. p. 187.
[10] Traité d'Accouch. p. 355.

CHAPTER VIII.

VESICO-VAGINAL AND RECTO-VAGINAL FISTULA. *Fistles vagino-vesicales et vagino-rectales*, Fr. *Harnblasen-fistel. Scheiden-harn fistel*, G.

Perforation of the coats of the vagina, anteriorly or posteriorly, with the subjacent organs, the bladder or rectum, is not very rare, and is one of the most distressing and intolerable accidents to which females are subject; and the more so, as a cure is but seldom effected.

Indeed vesico-vaginal fistula has long been considered as one of the *opprobria* of surgery; and, with some exceptions, of late years the cure has been given up as hopeless.

Vesico-vaginal fistula are more frequent than perforations of the rectum; they are generally found separately, but in some cases co-exist.[1]

A case was received into the Meath Hospital some years ago, in which the bladder and rectum were both perforated, the perineum lacerated, and the canal of the vagina distorted by cicatrices, and closed at its upper part by adhesions.

Causes.—Various *causes* may give rise to these accidents:

1. Either wall of the vagina may be wounded, accidentally or on purpose, by cutting instruments. Such has been the result of criminal attempts to procure abortion. In these cases, however, a cure often takes place spontaneously.

2. The long retention of a pessary in the vagina, may give rise to inflammation and ulceration of the vaginal tunics, and ultimately to perforation of the bladder or rectum. This, however, but seldom occurs, and then only in aged females, for whom little can be done in the way of cure.[2]

3. In powerless or difficult labours, where the head of the child is long retained in the pelvis, or where, by its size, it makes great pressure, the vagina may be the seat of inflammation, ulceration, and perforation, involving either of the subjacent organs, but much more frequently the bladder.

In these cases, the vagina is frequently narrowed, or deformed by

[1] "Breaches of the same kind through the recto-vaginal septum, which are indeed of much less frequent occurrence than those of the neck of the bladder, and the urethra, are also happily in many cases less miserably constant and durable in their results."—*Davis's Obstetric Medicine*, vol. i. p. 123.

[2] "M. J. Cloquet (Path. Chir., p. 100,) gives the particulars of a case, in which a pessary was met with in the body of an old woman, the broad lower end of which had perforated the rectum; while the upper narrower one had produced ulceration of the vesico-vaginal septum, and entered the bladder."—*Cooper's Surg. Dictionary, Art. Pessary*, p. 1090.

irregular, circular, or spiral cicatrices, rendering the detection of the fistula somewhat difficult. (Nauche,[1] Davis.[2])

4. A maladroit use of instruments may occasion this injury. Cases of both kinds of fistula could easily be adduced from authors, as the result of carelessness or incompetence in the operator.

5. Retention of urine during labour will generally involve more or less pressure upon the bladder; if within certain limits, perforation will be the result of subsequent inflammation; if the distention be excessive, and the bladder protrude into the pelvis, so as to be pushed before it by the descending head of the infant, then, most probably, rupture of the bladder and vagina will take place.[3]

6. The bladder is occasionally lacerated in rupture of the uterus, though there may not necessarily be a perforation of the vagina.[4]

7. In corroding ulcer and cancer of the uterus, the ulceration may involve either or both walls of the uterus, and perforate the bladder, or rectum, or both. For these cases, however, nothing curative can be attempted.

The *situation* of the perforation is of great importance in the cure of vesico-vaginal fistula. It may be at the junction of the urethra with the bladder—in the neck of the bladder—or in some part of its body. The opening may be more or less circular in form, or it may be a rent running longitudinally from before, backwards, or transversely.

The curability of the fistula will depend, in a great degree, upon its being attended with a loss of substance or not.

Recto-vaginal fistula are uncertain in situation and form, occupying any point of the intermediate septum, and running antero-posteriorly, or transversely.

Symptoms.—These depend primarily upon the cause of the fistula, and will vary according to it; and *secondarily*, upon the escape of the contents of the wounded organ. Whichever organ be wounded, the result is inexpressible distress to the patient. The escape of fæces or urine is attended with so marked and irrepressible

[1] Mal. des Femmes, vol. ii. p. 273.

[2] Obstetric Medicine, vol. i. p. 123. See also Journ. de Med., vol. iii. p. 551. London Med. Journ., vol. i. p. 335. Saviard's Surgery, pp. 7—72.

[3] "Between the case of rupture, and that in which an opening is produced by slough, there is a considerable difference. In slough, there is not merely the aperture, but the removal of a part, both of the womb and vagina; in rupture, no substance is wanting—the injury being effected by the simple disruption of the texture."

"Do not however, hastily take up the notion, that in these ruptures, the bladder is always, or even generally healed, for this I very much doubt; such closures, however, most undoubtedly occur sometimes, and I have seen one very suspicious instance of it."—*Blundell, Diseases of Women*, p. 80.

[4] "The vesical cyst may give way posteriorly into the peritoneal sac—the urine becoming interfused among the viscera; or the laceration may be seated in front, the water making its escape into the cellular web which lies about these parts, and covers the contiguous surfaces."—*Blundell, Diseases of Women*, p. 69.

an odour, that the patient is placed '*hors de societé.*' Obliged to confine herself to her own room, she finds herself an object of disgust to her dearest friends, and even to her attendants. She lives the life of a recluse, without the comforts of it, or even the consolation of its being voluntary. It is scarcely possible to conceive an object more loudly calling for our pity and strenuous exertions, to mitigate, if not remove, the evils of her melancholy condition.

In addition to the offensive smell, the escape of the urine gives rise to excoriation of the vagina, external parts, and thighs.

The flow of urine is constant when the neck of the bladder is the seat of the injury, and at intervals when the wound is situated more posteriorly.

In all cases, a careful examination should be made, by passing the catheter into the bladder, and a finger into the vagina; then placing the points of both in apposition, the whole posterior surface of the bladder should be passed over, and carefully examined.[1] At some one point the finger and catheter will come in contact: the catheter may then be passed into the vagina, and the extent of the damage ascertained.

The same process will detect any injury of the recto-vaginal septum.

When the vagina is not cicatrised, it is not generally difficult to obtain the information we desire; but when deformed by cicatrices, it will require both care and patience.

It may sometimes be necessary to use the speculum.

In the majority of cases, little is to be hoped for from the efforts of nature; the borders of the wound become thickened and callous, and the case remains stationary during the patient's life.

In some few cases, however, the result is more favourable; as, for instance, when the wound has been inflicted by a sharp instrument.

In two cases under my care, where the wound was precisely at the insertion of the urethra into the bladder, and was followed at first by absolute incontinence of urine, a cure was obtained naturally. The wound slightly contracted, without healing, and the muscular fibres of the bladder assumed the office of a sphincter muscle, and closed the orifice, so that the patient could retain urine almost as long as previous to the accident, and could evacuate it at pleasure.

Treatment.—We cannot wonder that many methods should have been tried to remedy so offensive an accident, nor that so few should have succeeded, when we recollect the obstacle presented by

[1] This is the more necessary, inasmuch as a temporary incontinence of urine is not uncommon after delivery. It generally also comes on soon after labour, so that at first either may easily be mistaken for the other. A vagino-vesical examination will always enable us to distinguish them. This incontinence, which arises from a species of paralysis of the bladder, is best treated by the frequent evacuation of the urine—rest—and when the lochia have ceased, by cold local bathing.

the constant passage of urine or fæces. We shall first treat of the cure of—

1. VESICO-VAGINAL FISTULA, which is by far the most difficult.[1]

The probability of relief depends partly upon the situation and partly upon the character of the fistula. When it is far back in the posterior wall of the bladder, and when there has been much loss of substance, a cure is seldom obtained; but when near the neck, we may sometimes succeed.

I shall now notice the principal plans which have been proposed.

1. *Dessault's method*,[2] as it has been called, consisted in maintaining a catheter constantly in the urethra, so as to afford an outlet for the urine, and at the same time preventing its escape, by plugging the vagina.[3]

Chopart succeeded in curing a case by this means, where the wound was in the neck; but he failed in one where it was in the body of the viscus.

Peu,[4] S. Cooper,[5] and Blundell, each relate a case of cure.

J. Cloquet has added a kind of syphon to the catheter.

There is no doubt that much relief may occasionally be derived from this plan. I had a case in which the patient was ultimately enabled to retain her urine for two hours, without dribbling, though the wound did not entirely close; but in some of the cases on record, the wound completely healed.

There is this objection to the plan, however, that in many instances the patients cannot bear the catheter above an hour at a time.[6] I saw two examples lately, where this circumstance proved a serious obstacle to the cure.

[1] For more detailed information, see Kilian's Rein-chirurgisches Operationen des Gebertshelfers, p. 237, et seq.

[2] "En suivant ce procedé, nous sommes venus à bout de guérir ces fistules urinaires et vaginales tres anciennes, à travers lesquelles nous pouvions porter le doigt dans la vessie."—*Dessault, Œuvres Chir.* vol. iii. p. 299.

[3] "The cure (according to some) consists in keeping a flexible catheter always in the bladder, that the urine may be continually solicited to come through the urethra, rather than through the vagina; but if this precaution hath been neglected, and the lips of the ulcer are turned callous, we are directed to pare them off with a curved knife, buttoned at the point, or consume them with lunar caustic; and if the opening is large, to close it with a double stitch, keeping the flexible catheter in the bladder until it is entirely filled up: but I wish this operation may not be found impracticable." *Smellie's Midwifery*, vol. i. p. 247.

A case is related as having been cured by constantly wearing a catheter for months.—*Recueil, Period, de la Societé de Santé de Paris*, vol. i. p. 187.

[4] Pratique des Acc. p. 384.

[5] Ryan's Manual of Midwifery, p. 253.

[6] "The goodness of the principle of keeping a catheter constantly in the bladder, has been long acknowledged; and in some few cases, its application has been attended with a successful result. The only objection to it in practice, is the extreme irritability of the bladder—by reason of which, few patients have been able to tolerate the retention of a catheter within its cavity for a sufficient length of time to comply effectually with the principle of its indication."—*Davis's Obstetric Medicine*, vol. i. p. 127.

2. *Cauterisation.*—This is obtained by the repeated application of the nitrate of silver, or the strong acids. Dupuytren, who, I think, first proposed the plan, used the "nitrate acide de mercure," or nitrate of silver.

Relief has occasionally been afforded by this means; but a cure is very rarely, if ever effected. Where there is much loss of substance, it affords no chance. I have seen it fail more than once.

However, Dupuytren, and Delpech, and Baravero, are said to have thus cured several cases. (Velpeau.)

The best mode of applying the caustic is by means of a speculum, which will leave the upper surface of the vaginal canal exposed; or by Lallemand's "porte caustique." The caustic should be lightly applied, as the object is not to produce a slough, but merely a contraction.

3. *Actual Cautery.*—If the loss of substance be slight, and the wound small, there is no doubt that a cure may be obtained by this means.[1] Dupuytren, who first proposed it, cured several;[2] Dr. M'Dowell, one;[3] Dr. Kennedy, two;[4] Mr. Liston, four or five;[5] and others have been equally successful. Dr. Colles has tried it

[1] "Cauterisation has been employed by many surgeons in the treatment of vesico-vaginal fistula. It has been successful in many cases, when they were seated in the neck of the bladder, or in the urethra." "Mais qu'il s'agisse d'une fistule du bas-fond de la vessie avec perte de substance et d'une date ancienne, la scene change alors la face."—*Jeanselme, L'Experience,* January, 1838, p. 48.

[2] "Lancet, June 23, 1838.

"Nous avons vu guerir par Dupuytren, apres trois cauterisations de feu, une incontinence complète d'urine occasionée par une perte de substance disposée en forme de fente longitudinale qui partait de l'urethre, dont la paroi inferieure etait completement detruite et s'etendait jusqu'au bas-fond de la vessie."—*Sanson, Nouveaux Elemens de Pathol. Med. Chir.* vol. v. p. 294.

[3] London Med. and Phys. Journal, 1831.

[4] "The operation may require to be several times repeated. Whether by repeating it sufficiently often, we should even in the majority of cases succeed in closing the aperture, I cannot say, but rather think not. Fortunately, however, it does not require that the aperture should be actually closed to enable our patients to retain their urine, as a very good substitute for the adhesion of the sides of the fistula occurs in the extension of its margin or lip across the aperture, thus forming a kind of valvular closure of it, by which means the bladder becomes capable of retaining the urine almost as well as if the opening were closed. In a patient whom Dr. Breen saw with me, this effect was produced in a striking degree; and although her urine was constantly escaping from her before the cautery was had recourse to, she was enabled afterwards to retain it without difficulty, for six or seven hours. In a case Dr. Collins saw with me, although the operation was performed six times, yet the aperture did not completely close; but thickening of the margin of the fistula took place—in consequence of which, the woman was able to retain her urine through the entire night, and for several hours (even when walking, and using active exertion) during the day, although, on her coming to me, it was constantly escaping."—*Kennedy's Essay in Dublin Journal,* vol. ii. p. 241.

[5] Lancet, June 23, 1838.

successfully where the orifice was not too large; but without benefit where the fistula was extensive. I witnessed a successful case treated by my friend, Dr. Ferrall, of St. Vincent's Hospital.

I also tried it in a case under my own care, but it failed, as I anticipated, on account of the large size of the opening.

The facility with which the operation is performed, will depend upon the situation of the fistula being more or less anterior.

The patient may be placed upon her back, as for lithotomy, or upon her knees and elbows. Dr. Kennedy adopted the former; but I have found the latter far more convenient, and I think less offensive to the patient's feelings. The light can reach the part more readily, and the position of the operator is more convenient. The patient must be placed before a window, or a candle must be used.

The next point is to dilate the vagina, so as to ensure access to the wound, without contact with the vagina. This may be done by three brazen spatulæ, sufficiently long to reach beyond the rent, and broad enough to protect the vagina—or by a double-bladed speculum.

I have also used with great facility and safety, a metal cylinder, closed at its extremity, but with an opening in the side, a little distance from the end, and corresponding to the fistula.

I am indebted for this suggestion to Dr. Montgomery.

A catheter should be passed into the bladder, and through the fistula, to guide the operator, and to keep the mucous membrane of the bladder from protruding.

Having these preliminaries adjusted, the cauterising iron, at a white heat, should be *lightly* applied around the *edges* of the wound, and withdrawn.

The dilators, or speculum, may then be removed, and the patient placed in bed. If it do not occasion irritation, it will be advantageous to allow the catheter to remain in the bladder.

The patient should be kept quiet, and the bowels freed by medicine.

A certain amount of local irritation generally succeeds, which subsides in the course of a few days; after which the operation may be repeated as often as necessary.

The operation should not produce a slough, or the patient will not be benefited, but merely a corrugation or shriveling of the edges.[1] If we thus reduce the wound, so as to bring the edges in contact, adhesion may then take place, and the patient be cured. But it must in candour be confessed, that whilst it is not difficult or uncommon to benefit the patient to a great extent, a complete closure of the fistula is very rare.

[1] "The effect of the cautery is to produce a thickening of the margin, and consequent contraction and diminution of the aperture—and ultimately, an adhesion of its edges, closing it up altogether. Upon the size and position of the aperture, will depend the greater or less likelihood of perfect cure."—*Kennedy's Essay in Dublin Journal*, vol. ii. p. 241.

4. *The Suture.*—This method is said to have been invented by Roonhuysen (Naegelé); at all events, it has been long known and practised by the profession, with varying results.

Of late years, it has been performed with success by Dieffenbach, Blandin, Chanam, and Jobert, (who operated seven times, and cured three patients,[1]) Sanson, who failed; Deyber, who nearly, if not quite cured his patient; Malagodi of Bologna, who has published his successful case; by MM. Lallemand, Duges, and Roux, who failed; and by M. Naegelé.

Mr. Earle cured three cases by this means. Mr. Hobart, of Cork, formerly published a successful case in a London Journal,[2] and now states that he has since perfectly cured at least ten by the suture.[3] A successful case is related in the American Medical Recorder.[4]

Dr. Evory Kennedy has succeeded in diminishing the orifice several times, and in one case in which the twisted suture was used, the cure was complete.

Mr. Hayward, of Boston, U. S., has recently published a very interesting case, which was perfectly successful.[5]

On the other hand, Dr. Colles (whose name alone is a sufficient guarantee for all that science, and skill, and care could do,) of this city, has allowed me to state that he has repeatedly tried the common interrupted suture, but though he has by this means lessened the orifice, he has never succeeded in closing it entirely: and this was the result under very favourable circumstances.

He has also seen very unpleasant consequences result from the operation—hemorrhage (the edges of the fistula having been removed by the knife) to a great amount—fever, hectic, &c. &c.

I have seen the operation performed very carefully, twice; but in neither instance did union take place.

The operation may be performed in the following manner. The edges of the wound are to be renewed, either by paring with a knife, or the application of caustic; the latter has the advantage of being less liable to occasion subsequent hemorrhage. When this is accomplished, the patient is to be placed on her back or knees, and the vagina to be dilated. If the wound be near the insertion of the urethra, or can be brought down by passing a catheter through it, a curved needle (rather shorter than usual) may easily be passed through the opposite edges.[6] If the wound be further back, an

[1] Lancet, May 12, 1838.

[2] London Med. and Phys. Journal, vol. v.

[3] "In reply to your letter, I have only to say that many cases of vesico-vaginal fistula came before me within the last fifteen years, many of whom were cured, some relieved, and others not at all benefited. I think there were from ten to fifteen *perfectly* cured, and all by the same means."—*Extract from a Letter from Mr. Hobart, of Cork*, dated August 10, 1839.

[4] For April, 1826, p. 410.

[5] American Journal of Medical Sciences, August, 1839.'

[6] "The patient was placed on the edge of a table, in the same position as in the operation for lithotomy. The parts being well dilated, I introduced a

instrument must be used to pass the suture. Mr. Hobart fixed a curved needle at the end of a canula, by means of a piece of wire with a hook at the end of it, running through the canula. The needle is passed through the hook, and held firm by it.

M. Naegelé has contrived a needle, with a long handle, for passing the ligature.

He has also invented a species of scissors, for the purpose of paring the edges.

Mr. Beaumont has described an ingenious instrument for passing the sutures:—

"The instrument is in the form of a forceps, one blade of which is a needle, curved towards its point, close to which is its eye. The other blade is broader on its opposing surface, less curved, and at its extremity has a hole, through which the needle-point, and just the loop of the ligature, are carried when the blades are closed. On the back of the broad blade is a spring, which, when pushed forwards, the blades being previously closed, catches the ligature on its point, and holds it.

"In using this instrument, the operator has only to seize in its points, in the same manner as he would with a pair of forceps, the border of the fistulous opening; the blades should then be closed, and the ligature will be carried through one lip of the aperture. The opposite border is then to be seized, and the blades to be closed, and held so. The spring on the back of the broad blade is now to be pushed forwards, by which the ligature is caught, and held at its point. The blades are then to be opened, and gently withdrawn, leaving a double ligature passed through opposite points of the fistulous aperture, so that a common or quilled suture may afterwards be formed."[1]

Mr. B. used it once with a quilled suture.

The instruments I have used were chiefly copied from some lent me by the present distinguished Master of the Britain street Lying-

large bougie into the urethra, and carried it back as far as the fistula. In this way, I was able to bring the fistula downwards, so that the opening was brought fairly into view. The bougie being then taken by an assistant, I made a rapid incision with a scalpel around the fistula, about a line from its edges, and then removed the whole circumference of the orifice. As soon as the bleeding, which was slight, had ceased, I dissected up the membrane of the vagina from the bladder, all around the opening, to the extent of about three lines. This was done, partly with the view of increasing the chance of union, by presenting a larger surface, and partly to prevent the necessity of carrying the needles through the bladder. I then introduced a needle, about the third of an inch from the edge of the wound, through the membrane of the vagina, and the cellular membrane beneath, and brought it out at the opposite side, at about an equal distance. Before the needle was drawn through, a second and a third were introduced in the same way; and these being found sufficient to close the orifice, they were carried through, and the threads tightly tied. Each thread was left about three inches in length."—*Mr. Hayward's Case, American Journal of the Med. Sciences*, August, 1839.

[1] Med. Gazette, Dec. 3, 1836, p. 335.

in Hospital (Dr. Kennedy,) with the addition of one I had made for transverse lacerations.

When the twisted suture is used, short curved needles may be employed; it will also be well to keep them in for some time. In Dr. Kennedy's case they were retained about three weeks.

Many other modifications of the manner of applying the ligature, (such as Schregers, Ehrmanns, &c.) might be enumerated, but for them I must refer my readers to Kilian's work already mentioned.

It will generally be necessary to pass three sutures, none of which should be tightened till all are inserted, and when tied, the ends should be cut off. The tightening is easily accomplished with two pair of dressing forceps.

When this is done, the dilator, or speculum, may be removed, and the patient put to bed.

There is considerable soreness and pain complained of, which may be relieved by vaginal injections of warm water twice a day, and the exhibition of purgative medicine.

When the edges of the wound have been pared, we must be on the watch against hemorrhage; (Duges, Colles.) Should it occur, cold injections may be thrown up, or a plug inserted, and if necessary, the sutures divided.

The sutures generally come away about the eighth or tenth day, and we are then able to ascertain the result of our operation, which, if not wholly successful, may be repeated after a week's interval.

In the majority of cases, I fear we shall find but little benefit;[1] though even less success than has as yet attended our efforts, would justify the operation.

M. Naegelé has described an instrument, consisting of two small plates, joined at the back like the pages of a book, and fixed in a handle of steel. The anterior edges are brought together by a screw fixed in the handle, and the edges of the wound being included, are retained in apposition, and the lower part of the handle removed.[2]

M. Lallemand has also invented one, which he calls a "sonde-erigne," by which a similar effect is produced.[3]

Not having seen the instrument, I am unable to give a description of it.

[1] "But when all was effected, every thing was opposed to the process of union; the parietes of the vagina and bladder were very thin, there being two secreting surfaces, with very little interposed substance; and there was a constant distillation of an acrid fluid through the edges of the wound; it was seldom that union took place. All, indeed, might appear to go on well for eight or ten days; but at the expiration of that time, the wound would probably be found to have been enlarged, by having been interfered with, and would become larger and larger every time the attempt at cure was made."—*Report of Mr. Liston's Clinical Lecture, in Lancet*, June 23, 1828.

[2] Erfahrungen und Abhandlungen, &c. p. 389.

[3] Velpeau, Med. Operatoire, vol. 3.

He has cured one case with it, partially cured another, but failed twice. (Jeanselme.[1])

MM. Langier and Lewziski have also contrived similar instruments.

5. Dr. Blundell saw a fistula in the neck of the bladder, near the urethra, cured by laying open the urethra to the rent, and then healing it up, as is done in ordinary fistula. Mr. Porter, of the Meath Hospital, performed a similar operation, which terminated successfully.

6. "*Elythro-plastie.*"—This name is given to the operation, by which a portion of integument is taken from a neighbouring part, and applied to the vesico-vaginal fistula, and retained by sutures; the old connection being maintained until union has taken place. It is exactly similar to the rhinoplastic operation for repairing noses.

It was suggested by Velpeau, but first practised by Jobert. Of his four operations—one patient was cured at once; one by a second operation; one died; and with one it failed.

M. Roux did not succeed with it.

I am not aware that any other surgeon has tried it.

7. *Closure of the Vagina.*—When using the caustic for the cure of vesico-vaginal fistula, in the year 1833, M. Vidal de Cassis chanced to touch the vaginal mucous membrane with it; this caused considerable inflammation, and on making an examination subsequently, he found the sides of the vagina adherent. The patient also observed that the dribbling of urine had entirely ceased. Unfortunately, a careless examination was afterwards made, and these adhesions were destroyed. But the hint was not thrown away, for on the next occasion, in the same year, M. Vidal de Cassis attempted to relieve the fistula in this way, and was perfectly successful, until the clumsiness of an assistant destroyed these adhesions also.

There is no doubt that in many cases this would be found a valuable means of relief.

Caustic of any kind will answer the purpose of exciting inflammation, though adhesion may not always take place.

I have seen a circle of the mucous membrane removed, and the parts brought together by suture, for the purpose of closing the orifice of the vagina, but union did not take place.

When we have recourse to this method, care should be taken to leave a very minute opening for the escape of the menstrual fluid, if menstruation have not ceased.

8. *The plug.*—If none of the means hitherto described afford a probability of cure, or fail upon trial, it is at least a comfort to know

[1] "In conclusion, M. Lallemand's instrument may be employed in fistula of the neck of the bladder, with a good chance of success; but at present it has not succeeded with deeper seated fistula of old standing."—*Jeanselme, L'Experience* for Jan. 1838, p. 54.

that we can still remove a portion of the distress caused by this frightful complaint, provided the irritability of the vagina be not too great to bear a plug.[1]

Various cases of relief by this means are on record.

Dr. Gooch, in 1814, suggested to Mr. Barnes, of Exeter, the employment of an India-rubber bottle, of sufficient size to fill the vagina, and having upon one side of it a small piece of sponge, to be applied to the fistulous opening. Mr. Barnes used this with great benefit to his patient.[2]

M. Duges has proposed a similar plan, but the pessary was made of different materials.[3]

Dr. Evory Kennedy has succeeded in taking casts (with wax) of the vagina with the fistula, in several cases; and from them he made moulds, and had caoutchouc bottles cast in the moulds. These were large enough to fill the vagina, and to close the outer opening, so as entirely to prevent the escape of urine.

I have attained the same object by means of a piece of sponge covered with thin bladder. It should be large enough to fill the vagina, and of a suitable shape. A narrow neck, of the dimensions of the vaginal orifice, is to be formed, by wrapping it with twine,

[1] "A well adapted globular body, of a proper size to admit a suitable part of its convex surface to be accurately adjusted to the boundaries of the aperture, capable also of some modifications of its figure, for the greater convenience of introduction and adjustment, readily chargeable with air, for the purpose of distention, but nevertheless admitting of being made perfectly air tight; so smooth on every part of its surface as to be easily tolerated when applied to the parts intended, even in their most tender state: such an instrument might in many—perhaps in the majority of cases of intercommunications between the bladder and vagina, be safely recommended as a means of relief or mitigation of the distressing evils consequent upon the accession of so grievous a calamity."—*Davis's Obstetric Medicine*, vol. i. p. 128.

[2] "A flat silver catheter was left in the bladder, and a few days after an elastic gum bottle was introduced into the vagina. A firm one was selected, and capable of containing two ounces of water; and had sewn on the convexity of its side a thin fine piece of sponge, as large as a dollar. A double string was passed internally through its bottom, and left hanging through its neck. The sponge was well smeared with calamine cerate; the bottle, dipped in oil, folded longitudinally, and passed into the vagina with the sponge in front. From its elasticity, it immediately expanded; and by a finger introduced through the neck, it was readily placed in its proper situation, so as to bring the sponge immediately opposite the perforation in the bladder."

"The principle of the management is simple. It consists in keeping up that degree of pressure which shall prevent the flow of urine through the opening, without exciting inflammation; and in providing at the same time a free passage through the urethra."—*Mr. Barnes's Paper in Med. Chir. Trans.* vol. vi. pp. 586–597.

[3] "M. Duges a imaginé, pour une fistule vesico-vaginale, une sorte de boudon formé de l'estomac ou d'une vessie natatoire de poisson, introduite à l'aide d'une sonde qui servait ensuite à la gonfler en la remplissant de l'huile; pour uriner il suffisait de l'enfoncer plus avant en poussant la sonde dans l'urethre."—*Duparcque, Ruptures de l'Uterus, &c.* p. 339.

which is to be covered with lint. The whole has much the shape of an egg-cup. It should be dipped in oil previous to being used, and then it can easily be introduced, and the stalk filling up the external orifice, no urine can escape. It can be removed and replaced by the patient herself.

Various other suggestions have been made,[1] but either of these plans will relieve the patient from the constant dribbling and offensive odour, and will allow the excoriations to heal.

If the patient cannot pass water with the plug in sitû, she should learn to withdraw it and re-introduce it herself.

2. Recto-Vaginal Fistula.—I have already mentioned that many of these cases are cured spontaneously; others, however, require the resources of art.

The plans of treatment for the cure of vesico-vaginal fistula, are almost all equally applicable to this accident.

The wound may be touched with caustic, or the actual cautery —the edges may be pared,[2] or cauterised, and brought into contact —or the vagina may be filled with a plug.

All these methods have been tried, and with much greater success than in vesico-vaginal fistula; and the method of operation so closely resembles that already recommended, that it would be unnecessarily tedious to repeat it.

CHAPTER IX.

LACERATION OF THE PERINEUM. *Dechirures du Perinée.* Fr. *Zerreissung des Mittelfleisches.* G.

When this accident is of slight extent, it may not interfere with the comfort of the patient; but when extensive, it will be a cause of constant distress; and in either case, the proper cure of the wound is important—as, if callosities form, or irregular cicatrices, much impediment may be offered in subsequent labours. It is an accident much more common with first labours than afterwards.

[1] "Dr. Balmanno showed me a patient who derived much comfort from having a hollow tin globe, like a pessary, inserted into the vagina. It was perforated at the upper part like a pepper box, and from the under a catheter descended, which entered into a flat flask, suspended between the thighs. Little or no urine escaped by the vagina."—*Burns' Midwifery*, p. 93—note.

[2] In a case of recto-vaginal fistula, Schultzer "resolved to cut off the edges of the aperture of communication, on the principle of the operation for the cure of fistula in anô. The wound was treated accordingly in the same manner as is usual in the treatment of such fistulæ. In six weeks the cure was completed, and the excrements were again discharged by their accustomed passage."—*Comment. de Rebus in Scient. Nat. et Med. Gestis, Lips.* 1775, vol. iv. p. 664, *Davis*, p. 127.

It will be recollected that when the head of the child descends so as to fill the cavity of the pelvis, it necessarily makes pressure upon the lower part of the rectum and the sphincter ani; that it then receives a direction forwards and downwards, and successively distends the central space of the perineum and its anterior border.

When the perineum offers much resistance, as with first children, the mucous membrane of the posterior wall of the vagina, owing to its laxity of connection with the subjacent tissue, is partially everted, and forms a kind of artificial perineum.[1] This is almost always torn, but the rent may extend no farther; and if we examine, the day after delivery, we shall find this mucous membrane retracted, and the true perineum untouched.

This is not to be confounded with the laceration of the true perineum, of which we are about to treat.

The *situation and extent* of the rupture vary according to the cause and the circumstances of the case.

1. It may commence at the anterior border, and extend *to* the sphincter ani; and this is the most frequent extent.

2. The rent may involve the entire perineum, and extend through the sphincter ani, laying the cavities of the rectum and vagina into one.

3. The central space of the perineum is sometimes ruptured, leaving the anterior edge (the fourchette) and the sphincter ani untouched. Cases are related by Hernu, Coutouly, Lachappelle, (Duparcque,[2]) Meckel,[3] Lebrun,[4] Thiebaut,[5] Frank, Martin,[6] Moschener,[7] Jungmann, Marter de Konigsberg,[8] Trinchinetti,[9] Merriman,[10] Waller,[11] Andrews,[12] Douglas, Mekeln of Kettwig, Joubert. And a case occurred recently in this city.

[1] "When the perineum is indisposed to distend; or if, when distended, it cannot permit the head of the child to pass with facility, the anterior part of the rectum is dragged out, and gives to the perineum a temporary elongation."—*Denman's Introduction*, p. 33.

[2] Ruptures ou Dechirures, &c. p. 368.

I am indebted to Duparcque's excellent work for several of the following references.

[3] Neues Journ. für die Chir. vol. iv. 1811.

[4] Annales de Med. Phys. July, 1825.

[5] Journ. de la Soc. de Med. vol. xxxiv. p. 178.

[6] Arch. Gen. de Med. vol. xxiv.

[7] Bull. de Ferrusac.

[8] Siebold's Journal, vol. ix. p. 726.

[9] Obs. sur l'Accouch. diff. Milan, 1819.

[10] Synopsis of Difficult Parturition, p. 263, 4th ed.

[11] "A case of this nature occurred in the practice of Mr. Burnett, of Charterhouse Square, in which both child and placenta were expelled through the perforation in the perineum; the sphincter ani and the frenum labiorum remaining entire."—*Waller's Note in Denman's Introduction*, p. 36.

[12] A case of central laceration of the perineum is recorded in the Philadelphia Medical Examiner for March 16, 1839, by Dr. Andrews, of Steubenville, Ohio. He says:—"A case of delivery, per anum, occurred in this place about two years ago, in the hands of a midwife, who then had considerable practice. The midwife stated to me that she was sitting by the fire, when

The rent may run along the central raphe of the perineum—on one side (Trinchinetti)—diagonally (Duparcque)—or in the form of the letter V or Y.

In most of the above cases, the child actually passed through the central opening; but in some cases, by careful management, it was transmitted through the natural orifice, without rupture of the fourchette. (Lachapelle, Denman,[1] Duparcque.)

4. The recto-vaginal septum, sphincter ani, and part of the perineum, may be torn, so as to permit the transit of the child, leaving the anterior portion of the perineum entire.

Causes.—The accident may arise from a deviation from the ordinary mechanism of parturition—from mal-conformation of the passages, or soft parts—from mal-presentation—or from mismanagement.[2]

1. If the *sacrum* be too *perpendicular*, the head of the child, instead of receiving its direction anteriorly, in the direction of the axis of the lower outlet, will be forced downwards upon the posterior portion of the perineum.

2. If the *arch of the pelvis be too acute*, so as to prevent the presenting portion filling its upper part, extraordinary dilation of the orifice of the vagina will be necessary, and the head will be pressed with unusual force upon the anterior part of the perineum.

3. A similar effect is said to be caused by a *thickened state* of the *urethra* and circumjacent parts, in the arch of the pubis. (Duparcque.)

the woman called to her for assistance; and that on examining, she found the head of the child 'coming the wrong way.' The child was of full size, and was delivered in a few minutes, completely *per anum*. The perineum was torn about an inch, but not directly towards the fourchette, and thereby a *complete* division between the rectum and vagina was avoided. The bowels of the patient were kept constipated for a number of days, and thus a perfect union of the laceration effected. It was the first child."

Another case may be found in the Dublin Journal, taken from a German periodical. "Dr. Mekeln, of Kettwig, was called to a female on the first of January, who had given birth to a strong and lively infant through the anus, two hours before his arrival. The wound in the under part of the vagina, as well as that in the rectum, was of great size. The perineum, from the aperture of the anus to the vagina, was two-thirds torn, and very painful. After three days, both the urine and fæces passed by their ordinary channels. On the 4th day, suppuration occurred, the wounds healed, and the woman, in due course, recovered her strength."

[1] Introduction to Midwifery, p. 36.

[2] "This progress (of the child's head) involves—1. That the presenting part glides easily along the curved plane of the vagina—from the sacrum to the vulva. 2. That the ano-perineal surface offers sufficient resistance to continue the direction impressed upon the head by the inferior and posterior part of the lower outlet. 3. That the pubic arch oppose not the exit of the fœtal head. 4. That the vulva be so distensible as to permit of the depression of its commissure, and the distention of its aperture. The failure of any one of these conditions becomes a predisposing cause of laceration of the ano-perineal region of the vagina."—*Duparcque, Ruptures et Dechirures, &c.*, p. 342.

4. The *too rapid passage of the head* may be attended with this accident. This may depend upon the extraordinary violence of the pains, or upon the small size of the head, which prevents it receiving the successive changes of direction from the plane surfaces of the pelvis, and the changes in the axes of the cavity and lower outlet.

5. *Exostosis* in any part of the pelvic cavity may so act upon the direction in which the fœtal head is propelled, that rupture of the perineum may result.

6. *Excessive breadth of the perineum*, by receiving the force of the descending head in its centre may be a cause of laceration, because the head rests in the centre, and distends it, instead of gliding forwards to the anterior edge. (Dupuytren, Duparcque.)

7. *Rigidity* of the perineum, or an old cicatrix, may resist the dilating power of the head, and ultimately give way under the employment of greater force.

8. The tissue of the perineum may be *weakened* by disease, or by too much pressure, so as to offer little or no resistance.

9. *Occlusion* of the lower outlet by the *hymen*. As this membrane, though much thinner than the perineum, is far less distensible, if it do not give way, the perineum may. I attended a case lately, in which the hymen resisted the pressure of the head (with strong pains) for two hours after the perineum was perfectly distensible, and in which there was every probability that the perineum would have been lacerated, had not the hymen ruptured. Laceration of the hymen may also be extended into the perineum.

10. *Malposition* of the child's head, by presenting a longer diameter than usual to the lower outlet, may give rise to this accident.

11. *Mal-presentations*.—Face presentations, involving the passage of the head in its longest diameter over the perineum, (Frank) —breech, or footling cases, which do not receive a proper direction so readily as the head, may also lacerate the perineum. Dupuis relates a case, where one foot came through the vagina, and one was forced through the perineum.

12. The accident may arise from the woman being *awkwardly placed* for delivery (Nedey, Denman, Dupuytren,) or from her *starting away* from the attendant; or from her *exerting too much voluntary force* at the time the head passes through the lower outlet.

13. The perineum may be torn, in consequence of *want of care when instruments are used*. They ought generally to be removed just before the head passes through the vaginal orifice.

From this detail of the causes which may produce or predispose to laceration of the perineum, it will be seen that it may not always be in our power to prevent its occurrence.

Symptoms.—If the laceration be very slight, probably no ill consequences will ensue; but if it extend to the sphincter, the patient will feel a want of support at the lower outlet, and a sense of "falling through." It is said to influence subsequent cohabitation, and certainly it will favour procidentia of the uterus.

If the recto-vaginal septum be torn, the condition of the patient will be very pitiable. The fæces (for some time at least) pass through the vagina involuntarily, and the utmost attention to cleanliness will not suffice to prevent the offensive smell, which renders the patient an object of disgust to to herself and her friends.

The lochial discharge passing over the wound, will for a time prevent any natural efforts at cure: and the edges may become callous, or degenerate into ulceration.

When slight, the rent generally contracts, and is healed without our interference, after a short time; and even when the recto-vaginal septum is torn, partial union may take place, leaving only a fistulous opening—or a kind of valve may be formed (Burns,) so that, under ordinary circumstances, the patient is partly relieved of her infirmity. But this is the work of time—it may be months or years.

Treatment.—1. *Preventive management.* A few words may not be misapplied in pointing out the best mode of preventing this occurrence.[1]

1. Defects in the passages, which render the mechanism of expulsion inefficient, may often be remedied by the application of the hand in such a manner as to give a direction forward to the head.

2. Direct support should be given to the perineum when distended; but this is frequently carried to excess, and produces the accident it is intended to prevent; it should be moderate and gentle—just so much as to support the parts, but no more.[2] I must altogether object to any attempt to retard the passage of the child, as erroneous in theory, and mischievous in practice.

3. When the perineum is rigid and undilatable, benefit may be derived from fomentations with hot water, the use of warm oil, lard or pomatum.

4. Under no circumstances is it justifiable to dilate the external orifice with the hand, as formerly recommended; on the contrary, instead of drawing back the perineum, it ought to be carried forward.[3]

5. If laceration be threatened in consequence of the persistence of the hymen, it may be incised with a blunt pointed bistoury.

[1] "The preventive treatment consists in changing or destroying the abnormal conditions which predispose to this accident, and which may be divided into three heads. 1. The direction of the fœtus, throwing all the pressure upon the ano-perineal region. 2. The defective resistance of these parts. 3. Obstacles at the orifice of the vulva, to the exit of the child."—*Duparcque, Ruptures et Dechirures, &c.* p. 395.

[2] "The pressure must not be exerted to a greater extent than will suffice to convey to the patient a feeling of support; for, were it applied in a greater degree, we should be apt to produce what we are anxious to prevent, since the perineum would be firmly squeezed between two surfaces harder than itself."—*Campbell's Midwifery*, p. 329.

[3] "In supporting the external passage, while every pain partially protrudes the head of the infant, the author advises the perineum to be forced forwards towards the pubis—a method which he has followed for forty years."—*Hamilton's Pract. Obs.* part i. p. 261.

6. The patient should always cease forcing, and remain perfectly quiet during the exit of the child.

2. *Curative Treatment.*—Slight cases, as I have said, will often heal without assistance. Even when the rent is more extensive, a cure may be effected without further interference than great cleanliness—keeping the patient in one position, so as to preserve the edges of the wound in contact—and constipating the bowels after free purgation.[1] (Duparcque.)

If this do not succeed, we are advised to use a degree of compression, passing a binder around the hips, and a pad on either side of the perineum, so as to secure the apposition of the lips of the laceration. (Trainel, Duparcque.)

Strips of adhesive plaster have been applied, but they do not answer.

In many cases either of these plans has succeeded,[2] but in many cases also they have both failed, especially when the recto-vaginal septum is involved.[3] However, we have still another resource—

In *the suture*, which was first proposed by Ambrose Parè, and practised by Guillemeau, La Motte, Saucerotte, Trainel, Noel, Dieffenbach, Roux, &c.

Before this can be attempted, however, the primary inflammation must have subsided; nor is it forbidden, even though a considerable time should have elapsed. M. Montain cured a case on which he operated thirty-six days after delivery; and others have succeeded at a more distant period.

Three different kinds of suture have been adopted—the *interrupted*, the *twisted*, and the *quilled* suture. Osiander, Dieffenbach,

[1] "Position, aided by other precautions, suffices in a great number of cases to procure an union, if not complete, yet sufficiently extensive to prevent the serious inconveniences which result from profound lacerations of the perineum."—*Duparcque, Ruptures et Dechirures, &c.* p. 422.

"When the accident has occurred, if it is merely a slight laceration, keep the parts clean, and it will heal of itself—the patient, it may be, never suspecting what has happened. If the laceration be more extensive, reaching through the sphincter, the most miserable consequences ensue—the patient becoming for a time incapable of retaining the contents of the bowels. It is however a satisfaction for her to know, that in the course of months the parts harden round the orifice of laceration; and in consequence of this hardening, unless there be diarrhœa, or extraordinary action of the rectum, the fæces may be retained, though not without uncertainty."—*Blundell's Obstetricy*, p. 759.

[2] "J'ai vû un assez grand nombre des dechirures profonds du perinée quelques uns etendaient à l'anus et au rectum, toutes ont gueries par reunion immediate, sinon complete, au moins suffisante pour rendre nuls ou supportables les inconveniences consecutifs à ce genre de blessure, et cependant jamais je n'ai eu recours à la suture."—*Duparcque, Ruptures et Dechirures, &c.* p. 433.

[3] "The cure of a lacerated perineum is very difficult—in some cases impossible. If, indeed, the rent does not extend through the sphincter ani, the torn parts will sometimes coalesce so as to form a tolerable perineum; but when the laceration passes quite into the rectum, a cure is rarely perfected."—*Merriman's Synopsis*, p. 110.

&c. succeeded with *the first*, but according to Duparcque, the success and failure have been nearly equal. Mr. Alcock cured one,[1] and Mr. Bayer two patients in this way.[2] Dr. Mettauer, of Virginia, (U. S.) succeeded with metallic sutures; they were introduced, and the parts approximated, by twisting the ends together. They were removed in six weeks, and union found to have taken place.

The great objection to the interrupted suture is that the lips of the wound are not closely applied in the whole extent, and the union is often partial.[3]

The same observation may be applied to the *twisted suture*,[4] although it has succeeded with Morlanne, Saucerotte, Noel,[5] Dieffenbach, &c.[6]

The *quilled suture*[7] is evidently better adapted for the purpose, as the entire surfaces of the laceration may be brought into contact.

[1] Lond. Med. and Phys. Journal.

[2] Edin. Med. and Surg. Journal, vol. xix. p. 552.

[3] "*Interrupted Suture.* The wound being cleansed from all clots of blood, and its lips being brought evenly into contact, the needle, armed with a ligature, is to be carefully carried from without inwards to the bottom; and so on from within outwards. Care must be taken to make the puncture far enough from the edge of the wound, lest the ligature should tear quite through the skin and flesh. The other stitches required are only repetitions of the same process. The threads having been all passed, you are in general to begin tying them in the middle of the wound; though if the lips be held carefully together, it will not be of great consequence which stitch is tied first."—*Cooper's Surgical Dictionary*, p. 1209.

[4] The *twisted suture* is performed in the same manner as for hare-lip.

[5] "M. Noël rapporte avoir remedié par la suture, non seulement à une dechirure complète et ancienne du perinée, mais encore à celle du sphincter de l'anus et de la cloison recto-vaginale. Il raviva d'abord la plaie du perinée, comme on le fait dans l'operation du bec-de-liévre, il plaça ensuite quelques epingles, qu'il assujettit avec du fil entrelacé." The patient was cured.—*Capuron, Mal. des Femmes*, p. 489.

[6] In the *Lancet* for March 3, 1838, nine cases are related, which were treated by Professor Dieffenbach. In the first, eight and ninth cases, the interrupted suture alone was used; the patients recovered. In the third, two twisted sutures were applied. In cases two, four, five, seven, both twisted and interrupted sutures were used; and in all union took place. In case six, both twisted and interrupted sutures were employed; but the wound only healed partially.

[7] *Quilled Suture.* "It is merely the interrupted suture, with this difference, that the ligatures are not tied over the face of the wound, but over two quills, or rolls of plaster, or bougies, which are laid along the sides of the wound. In performing this suture we make first two, three or four stitches of the interrupted suture, very deep, and then, all the ligatures being put in, we lay two bougies along the sides of the wound; then slip one bougie into the loop of the ligatures on one side, drawing all the ligatures on the other side, till that bougie is firmly braced down. Next, we lay the other bougie, and make the knots of each ligature over it, and draw it also pretty firm; and thus the ligatures, in the form of an arch, go deep into the bottom of the wound, and hold it close, while the bougies, or quills, keep the middle of the wound and lips of it pressed together with moderate closeness, and prevent any strain upon the threads, or any coarse or painful process of tying across the wound."—*Cooper's Surg. Dictionary*, p. 1210.

Dupuytren succeeded once; Roux and Dieffenbach several times; M. Dubois failed; but Mr. Davidson succeeded completely.[1]

Dr. Colles has rarely succeeded in curing, though he has diminished the rent.

If there should be loss of substance, or contraction of the two sides of the perineum, so that they will not readily meet or remain in contact, Dieffenbach makes an incision through the skin on each side.

The bowels should be freed well before the operation, and an opiate given, so as to constipate the bowels; and when union is attained, this may be remedied by an enema.

The catheter must be passed morning and evening for some time.

The diet should be spare—a little gruel and biscuit will answer very well. Of course absolute rest is necessary.

"If the radical cure fail, the patient must use a compress, with a spring bandage, if the stools cannot be retained. But it sometimes happens that the torn extremity of the rectum, or the anterior parts containing a fragment of the sphincter, or a portion of the internal sphincter, as it has been called, forms a kind of flat valve, which rests on the posterior surface at the coccyx, so that the orifice now resembles a slit, and the fæces, unless very liquid, remain in the hollow of the sacrum, and do not pass through the valvular orifice till an effort be made to expel. Sometimes the perineum unites, but

[1] "On the sixth of November, 1838, in company with Dr. Henry Davies, I performed the operation in the following manner:—I passed deeply a strong double ligature, by means of a common curved needle, close by the edge of the rectum, and another rather more than half an inch from the first, towards the vagina; after which I pared the edges of the wound, which I had not previously done, that I might not be annoyed by the oozing of blood, so as to be enabled to place the ligatures more accurately. The ligatures being introduced, I employed as cylinders two pieces of elastic gum catheter, about an inch and a half in length, one of which was placed in the loops which the double ligatures formed on one side, and the other between their separate ends, tying them firmly upon the cylinder. Baron Roux found in his cases that the use of the quilled suture caused an eversion of the edges of the wound; to remedy this, he had recourse to several small sutures, at different points between the different ligatures. To effect the same object, and also with a view of keeping the divided parts more closely and firmly in contact, I adopted the following plan, the materials for which I had prepared previous to the operation. I armed a curved needle with a piece of narrow tape four inches long, having a knot at one end; this was passed down each end of both cylinders about half an inch, and brought outwards, the end of the tape being prevented slipping through by the knot; the tapes were then placed in such a situation as to be intermediate to the ligatures; this being done, I turned the cylinders gently towards the edge of the wound, and tied the corresponding tapes over it, which I think rendered it much more solid than any number of small ligatures could have done." The bowels were constipated by opium, the urine drawn off night and morning, and the diet consisted of small quantities of gruel and hard biscuit. The ligatures were removed on the seventh day, and union was found to have taken place throughout. The urine was evacuated naturally after nine or ten days; the bowels relieved on the seventeenth; and after six or seven weeks, she was able to go about as usual."—*Lancet*, May 4, 1839, p. 225.

the septum does not, and the inner surface of the rectum protrudes into the vagina. In these cases, the edges of the septum must be made raw, and stitches used."[1]

CHAPTER X.

PHLEGMASIA ALBA DOLENS.[2] CRURAL PHLEBITIS. *Depots du lait. Engorgement puerperale des Membres Abdominaux.* Fr. *Entzündung des Zellgewebes.* G.

This disease, under various appellations, has been long known to the profession, although there has been much difference of opinion as to its nature. It was described by Roderick à Castro, in 1603, and subsequently by Mauriceau, Puzos, Levret, Petit, Leake, White, Hull, Trye, &c. &c.

It consists in a swelling of one or both legs, (simultaneously or successively,) shortly after delivery, with pain and tenderness, and running a definite course. The left leg is more frequently affected than the right.

It may occur with first children, but it is more frequent after subsequent deliveries.

Women of a delicate constitution, or lymphatic temperament, are said to be the most liable to the attacks; but especially those who have suffered from uterine irritation after delivery. Mr. Chatto's case followed extraction of the placenta.[3]

It generally commences within a fortnight after delivery, (Denman[4])—sometimes on the third or fourth day—in others not till some weeks have elapsed. Of twenty-two cases observed by Dr. R. Lee, seven were attacked between the fourth and twelfth day, and fourteen after the second week.

Pathology.—Successive authors have given different theories touching the essential nature of this disease; and though we have recently become acquainted with the most important point of its pathology, it is not quite certain that even yet our knowledge embraces the whole series of facts connected with it.

[1] Burns's Midwifery, p. 74.

[2] Called also milk leg, white leg, swelled leg, puerperal tumid leg, &c. By Dr. Hull, phlegmasia dolens; by Dr. Cullen, anasarca serosa; by Dr. Good, bucknemia sparganosa; by others, phlegmasia lactea, œdema lactium, &c.

[3] Med. Gaz. Sep. 14, 1839.

[4] Introduction, p. 507.

"In some rare instances, the phlegmasia dolens makes its appearance even months after delivery; and Levret states that he has known an attack to occur on weaning the child, perhaps a year or more after delivery."—*Blundell's Obstetricy*, p. 785.

Mauriceau[1] considers it to be owing to a reflux upon the lower extremities of certain matters which ought to have been evacuated by the lochia.

Puzos[2] and Levret[3] attributed it to deposits of milk (*depots du lait*) in the legs. This opinion has prevailed extensively in these countries; and with some practitioners it was customary to keep the child constantly to the breast, to prevent this metastasis when threatening, or to remove it when it had occurred.

In the year 1784, Mr. White of Manchester, published an inquiry into the nature and cause of that swelling in one or both of the lower extremities, which sometimes happens to lying-in women; and he suggested or adopted the opinion, that the disease depends on obstruction, or on some other morbid condition of the lymphatic vessels and glands of the affected parts. (Lee.)

Mr. Trye, of Gloucester, in an essay on this subject, (1792,) attributed it to a rupture of the lymphatic vessels, as they cross the brim of the pelvis, under Poupart's ligament. Soon after this, Dr. Ferrier maintained that there is a general inflammatory state of the absorbents in this disease. (Lee.)

Dr. Hull (1800) considered the proximate cause of this disease to be an inflammatory affection, producing suddenly a considerable effusion of serum and coagulable lymph into the cellular membrane of the limb. All the textures, muscles, cellular membranes, lymphatics, nerves, glands and blood vessels, he supposed to become affected. (Lee.)

So far the theories depended upon *à priori* reasoning—not upon pathological facts; and the first light thrown upon the subject by *post mortem* examination was by Dr. Davis, the well known Professor of Midwifery in University College, London, who in 1817 examined the condition of the veins in a patient who had died with the disease, and found that they had evidently been the seat of extensive inflammation.[4] He then taught that phlegmasia dolens re-

[1] Mal. des Femmes Grosses, vol. i. p. 446.
[2] Traité des Accouch. p. 350.
[3] L'Art des Accouch. p. 932.
[4] "Morbid appearances observed on examining the body of Caroline Dunn, March 6, 1817:—The left lower extremity presented an uniform œdematous enlargement, without any external discolouration, from the hip to the foot. This was found on further examination to proceed from the ordinary anasarcous effusion into the cellular substance. The inguinal glands were a little enlarged, as they usually are in a dropsical limb, but pale coloured, and free from the slightest sign of inflammation. The femoral vein, from the ham upwards, the external iliac, and the common iliac veins, as far as the junction of the latter with the corresponding trunk of the right side, were distended, and firmly plugged with what appeared externally a coagulum of blood. The femoral portion of the vein, slightly thickened in its coats, and of a deep red colour, was filled with a firm bloody coagulum, adhering to the sides of the tube, so that it could not be drawn out. As the red colour of the vein might have been caused by the red clot every where in close contact with it, it cannot be deemed a proof of inflammation. The trunk of the profunda was distended in the same way as that of the femoral vein; but

sulted from this cause, and in May, 1823, published a paper with cases and dissections in the Med. Chir. Trans. vol. xv.

"In January, 1823, M. Bouilland related several cases and dissections, in which the crural veins were obliterated, in women who had suffered from œdema of the lower extremities after delivery; and M. Bouillaud distinctly stated that he considered obstruction of the crural veins to be the cause, not only of the œdema of lying-in women, but of many partial dropsies."[1]

It is but just to remark, that although this bears an earlier date than Dr. Davis's paper, yet the latter gentleman had been promulgating his views for six years previously.

In 1829 (I believe) Dr. Robert Lee, acting upon a suggestion of Mr. Guthrie, succeeded in tracing the affected veins to their origin in the uterus, and found the disease equally marked there.[2] He

the saphena and its branches were empty and healthy. The substance filling the external iliac, and common iliac portions of the vein was like the laminated coagulum of an aneurismal sac, at least with a very slight mixture of red particles; the tube was completely obstructed by this matter, more intimately connected to its surface than in the femoral vein; adhering indeed as firmly as the coagulum does to any part of an old aneurismal sac; but in its centre there was a cavity containing about a tea spoonful of a thick fluid of the consistence of pus, of a lightish brown tint, and pultaceous appearance. The uterus, which had contracted to the usual degree, at such a distance of time from the delivery, its appendages and blood vessels, and the vagina, were in a perfectly natural state. There was not the least appearance of vascular congestion about the orgau; nor the slightest distention of any of its vessels. Its whole substance was on the contrary pale, and the vessels every where contracted and empty. The state of the abdominal cavity and its contents was perfectly natural. That the substance occupying the upper part of the venous trunk and the fluid in its central cavity, had been deposited there during life, from inflammation of the vessel, does not admit of doubt. I am also decidedly of opinion, in consequence of its firmness, and close adhesion to the vein, that the red coagulum in the femoral vein was the result of a similar affection extending along the tube; and that the passage of the blood through it, in the whole tract submitted to examination, must have been completely obstructed before death."—*Letter from W. Lawrence, Esq., in Davis's Obstetric Medicine*, vol. ii. p. 1204.

[1] Lee on Diseases of Women, p. 149.

M. Valpeau concludes as follows:—

"1. Le gonflement aigu des membres abdominaux chez les femmes en couche, reconnoit pour cause, dans quelques cas du moins, une inflammation des symphises ou des veines.

"2. D'une autre coté, les accidens observés sur le vivant se rapporteraient aussi bien à une lesion grave des veines profondes, qu'à celles des lymphatiques.

"3. Jusqu' à present il reste encore à demontrer, que les derniers organes soient veritablement la cause de la phlegmasia alba dolens.

"4. Des maladies de nature tout-à-fait differente ont été rangées sous la même titre, et c'est là ce que a pû en imposer et contribuer à repandre la confusion sur cet objet, d'ailleurs assez obscurement decrit par un grand nombre de medicins."—*Recherches et Obs. sur la Phlegmasia Alba Dolens in Arch. Gen. de Med.* October, 1824.

[2] "The left hypogastric or external iliac vein, was in the same condition, but in some places reduced to a cord-like substance; and its cavity through-

then added to Dr. Davis's observation, the fact that (at least in many cases) crural phlebitis is but an extension of uterine phlebitis.

MM. Petit, Gardien and Capuron,[1] regard the disease as inflammation of the lymphatic vessels and glands.

Dr. Burns considers the nerves as involved in the disease.[2]

Dr. Campbell coincides rather with Dr. Davis than Dr. Lee.[3]

Dr. Dewees rejects the pathological view, and is rather inclined to adopt that of Dr. Hull.[4]

M. Bouillaud has written a very able article on this subject in the Dict. de Med. et de Chir. Prat. (1834,) in which he includes inflammation of the symphyses, veins, lymphatics and nerves, among the proximate causes of phlegmasia dolens.

It is evident that if we take pathological anatomy for our guide, we must conclude the disease to consist in inflammation of the veins of the lower extremities, in many cases propagated from the veins of the uterus; and that the interruption of the circulation through these vessels gives rise to the effusion of serum in the cellular tissue. This view also derives some support from the phenomena which result from phlebitis in other situations.

At the same time it is not impossible that some further information may be necessary, before we fully comprehend the true theory of the disease.

Cause.—The exciting cause is generally the impression of cold; and if Dr. Lee's views be of general application, we may add disease of the uterus, especially of that part to which the placenta is attached.

Symptoms.—As this disease generally occurs in women who have suffered from uterine irritation or inflammation,[5] and may even

out completely obliterated. The branches of this vein, taking their origin in the uterus, and usually termed the uterine plexus, were found completely plugged up with firm red coagula."—*Lee on Diseases of Women*, p. 131.

[1] Mal. des Femmes, p. 551.

[2] "I consider that the nerves are implicated as much as the veins; and that whilst both may contribute, we shall find in different cases one or other predominate."—*Burns's Midwifery*, p. 611.

[3] "From the only dissection which the author has witnessed, and the cases published by Drs. Lee and Davis, in support of their respective theories, he must coincide in opinion with the latter; for it is obvious that the malady may commence either in the uterine or extra uterine veins."—*Campbell's Midwifery*, p. 370.

[4] Dr. Dewees objects to Dr. Davis's explanation of the nature of the disease, and concludes by saying, "We have upon this subject but two suggestions to make, viz:—1. Be the affection seated in what tissue it may, its character is highly inflammatory; 2. That in our opinion, this inflammation occupies exclusively the white lymphatic vessels of the cellular membrane of the several textures of the limb."—*Diseases of Women*, p. 489.

[5] "In most of the patients there was either an attack of uterine inflammation in the interval between delivery and the commencement of the swelling in the lower extremity; or there were certain symptoms present which I have before described as characteristic of venous inflammation, viz. rigors, headach, prostration of strength, a small rapid pulse, nausea, loaded tongue, and thirst."—*Lee on Diseases of Women*, p. 117.

be caused by such condition of the uterus, it is not surprising that the ordinary premonitory symptoms should commence with pain or uneasiness in the lower part of the abdomen, extending along the brim of the pelvis; the patient is irritable, depressed, and complains of great weakness.[1]

Sometimes, however, there are no precursory symptoms, the patient being suddenly seized with pain in the calf of the leg;[2] or it may commence like rheumatism, affecting the back and hip joint.[3]

When the disease begins in the pelvis, the pain speedily extends below Poupart's ligament down the thigh, to the ham, calf of the leg, and foot.

It is constant, but occasionally remitting, and not much relieved by posture, though a depending position materially increases it.

Shortly after the commencement, the inguinal region is tumefied and tense, and in a day or two the thigh becomes swollen, tense, white and shining. This swelling may be confined to the thigh, or extend down to the heel, and it will vary much in amount; occasionally the leg is enormously increased in size.

When the pain originates in the back and hips, the nates and vulva become swollen, glassy and tense.

When the disease commences in the calf of the leg, the swelling is first observed there or at the ancles, gradually extending itself up the leg and thigh.

The temperature of the limb is generally increased, though sometimes it is below the natural standard. (Burns.)

At the commencement and decline of the disease, the limb pits upon pressure; but when the distention is great, it does not.[4]

[1] "Before the appearance of any swelling, or sense of pain in the limb about to be affected, women become very irritable, with a sense of great weakness, and grievously depressed in their spirits, without any apparently sufficient reason, complaining only of transient pains in the region of the uterus; and from these the approach of the disease has frequently been foretold. After a short time they are seized with an extremely acute pain in the calf of the leg, extending to the inside of the heel, and then observing the course of the lymphatics, stretching up to the ham, along the internal part of the thigh to the groin, occasioning a slight soreness on the lower part of the abdomen."—*Denman's Introduction*, p. 506.

[2] "Sometimes there is no uneasiness in the belly, and the first symptom is sudden pain in the calf of the leg. Within twenty-four hours after the pain is felt the limb swells, and becomes tense; it is hot but not red—it is rather pale and somewhat shining. The swelling sometimes proceeds from the groin downwards; but in most cases it is first perceptible about the calf of the leg, and proceeds upwards. It is generally followed by an abatement, but not a cessation of the pain."—*Burns's Midwifery*, p. 608.

[3] "Sometimes the disease begins like rheumatism, affecting the back and hip joint. Then the upper part of the thigh becomes painful and swelled; and next the calf of the leg suffers; sometimes the limb at first feels colder than the other."—*Burns's Midwifery*, p. 609.

[4] "In several well-marked cases however of crural phlebitis at the invasion of the disease, the impression of the finger has remained in different parts of the limb—more particularly along the tibia; but as the intumescence has increased, the pitting upon pressure has disappeared until the acute stage has

In most cases, the femoral vein may be traced from the groin down the thigh, feeling hard, and rolling under the finger like a cord. When the attack is limited to the leg, however, this is not the case.

There is a degree of tenderness all over the limb, but it is very marked along the course of the inflamed vessel; there is neither redness nor discolouration.

The inguinal glands are generally swollen and hard; in some rare cases they suppurate.[1]

Abscesses may form in the cellular membrane; and Burns states that mortification has occurred.

Either leg may be affected, though the left appears to be more frequently attacked; and it not infrequently happens that the sound leg participates in the disease before the other is perfectly well, and then the disease runs a similar course a second time.[2]

When once the swelling takes place, the limb becomes useless —the patient can neither bend it, nor place it on the ground.

The constitution, as might be expected, suffers considerably during the attack; the pulse becomes quick (100 to 140) though weak, the tongue white and coated, the thirst considerable, the countenance pale, the appetite is lost, the bowels deranged, the urine turbid. The patient is restless, and generally sleepless.[3]

passed away. At the onset of the disease, I have also observed in several cases a diffuse erythematous redness of the integuments along the inner part of the thigh and leg."—*Lee on Diseases of Women*, p. 118.

[1] "Then also the inguinal glands are affected, sometimes the external, which are perceptibly enlarged, indurated or painful, and sometimes the internal, or both."—*Denman's Introduction*, p. 506.

"In several instances suppuration has taken place; mortification has also happened. Amputation has been required on account of the sequelæ."—*Burns's Midwifery*, p. 609.

"In one individual only has suppuration of the glands taken place in the vicinity of the femoral vein; but in several, by an extension of the inflammation, the inguinal glands have become indurated and enlarged."—*Lee on Diseases of Women*, p. 118.

[2] "Either or both the legs may be affected together or successively. When the latter is the case, the disease having remained for a certain time in one leg, and the symptoms being abated, the other has been suddenly and unexpectedly seized. Then the symptoms have recurred with equal violence, and gone through a similar course. But the patient having escaped the danger before apprehended, though disconcerted, bears the second attack, even if it be more severe, better than she did the first."—*Denman's Introduction*, p. 507.

"Most of my patients have had both legs affected, though not at the same time; but after going through the progress he (Dr. Wyer) describes in one, the other becomes affected; and unless prevented by the application of blisters, goes through the same stages, and takes the same time as the first."—*Mr. Sankey's Paper in Edin. Med. and Surg. Journal*, vol. x. p. 102.

[3] "The pulse, at first perhaps only 80, soon becomes very frequent, being often 140 in the minute, and generally is small and feeble, but sharp; the tongue is white and moist; the countenance has a pale chlorotic appearance; the thirst is considerable; the appetite is lost; the bowels are either bound, and the stools clay coloured, or they are loose, and the stools very fetid and

The internal genitals are tender; (Burns,) and the lochia sometimes diminished or offensive, but more frequently unaltered.

Of course these symptoms will vary in intensity, according to the violence of the attack; and when the acute stage is over, (in ten days or a fortnight,) the constitutional disturbance subsides, and the affection becomes local[1] and chronic.

Terminations.—1. It may terminate in *resolution*—the sy - toms altogether subsiding—the effusion disappearing—and the patient recovering the use of her limbs.

2. The subsidence may be more *gradual*, the limb continui swollen for months, and the patient being unable to use it freely.

In these cases there may be some thickening of the cellular tissue, and sometimes the veins remain varicose.[2]

3. As already stated, *suppuration* may take place, even to a great extent, so as to change the character of the disease, and even to threaten danger from exhaustion.[3]

4. *Death* may occur, either suddenly—perhaps as the patient raises herself in bed, (Denman, Blundell,)—or more gradually, from the secondary diseases consequent on phlebitis.[4]

Morbid Anatomy.—1. On opening the limb, it is found to be distended by serum effused into the cellular membrane.[5]

bilious. The urine is muddy; the lochial discharge sometimes stops or becomes fetid—in other cases it is not at all affected. The nights are spent without sleep, and the patient perspires profusely. All the parts within the pelvis are tender, and the os uteri is open, but not more painful when touched than the sides of the vagina, or the internal muscles."—*Burns's Midwifery*, p. 608.

[1] "The constitution seems to be very much disturbed and enfeebled at the beginning of the disease, and unequal to the due performance of its common functions; yet after a certain time it seems to become local, for the patients recover their health, and often menstruate regularly; but even this change has seldom afforded the expected relief to the affected limb."—*Denman's Introduction*, p. 508.

[2] "In one case, after the swelling had subsided several months, large clusters of dilated superficial veins were seen proceeding from the foot, along the leg and thigh, to the trunk; and numerous veins, as large as a finger, were observed over the lower part of the abdominal parietes."—*Lee on Diseases of Women*, p. 119.

[3] "Mais la suppuration est aussi à craindre. Il peut se former dans la tissu cellulaire des abscès qui degenerent en ulceres tres-rebelles, comme chez la femme que nous avons dit avoir fait fausse-couche, pour s'etre baignée imprudemment à la riviere. Selon Ant. Petit, la suppuration peut etre si abondante, qu'elle entraine la fonte totale et la mort de l'individu."—*Capuron, Mal. des Femmes*, p. 559.

[4] "This is not generally a fatal disease, but it is tedious, and often accompanied with hectic symptoms. Death, however, may be caused by suppuration or gangrene; or by exhaustion, proceeding from the violence of the constitutional disease; or by exertion made by the patient, which has sometimes suddenly proved fatal. Or after the leg appears to be getting better, daily shivering, with vomiting, pain in other parts, and rapid pulse, with delirium, precede death."—*Burns's Midwifery*, p. 609.

[5] "On dissection the limb is found to be infiltrated with thin fibrine; sometimes there are many small abscesses between the muscles, or a large

2. The vein is obliterated by clots of blood firmly adherent to its parietes, which are thickened; its inner membrane is of a deep red colour—the result, either of staining from the clots or of inflammation.

A membrane of coagulable lymph may be found instead of the clot, (Lee,) lining different vessels.

The veins may contain purulent matter.

The vessels which have been noticed as participating in these changes are the femoral, the external, internal, and common iliacs of either side, the epigastric, spermatic, circumflexa ilii, the uterine, vaginal and saphena veins, and the vena cava. (Lee.)

Pus is also met with in the absorbents, and evidences of inflammation.[1] The nerves are also inflamed in some cases.[2]

A series of small abscesses are found in the substance of the limb —or a single one of large size.

Traces of secondary disease are discovered in the different cavities, joints, &c.

Prognosis.—Though we cannot say that the disease is without danger altogether when severe, yet the proportion of deaths is so small that, in the great majority of even severe cases, our prognosis may be favourable; still more decidedly when the attack is slight.

Diagnosis.—The characteristic marks of the disease are, the time of its occurrence—after delivery; the uterine symptoms preceding —the pain down the thigh and leg—the swelling; but especially the painful, hard, cord-like femoral vein.

When the greater part of these symptoms is present, there can be no doubt of the nature of the disease.

Treatment.—The condition of the patient after confinement, will of necessity somewhat modify the activity of the treatment.

Generally speaking, venesection will not be required; but if the patient be of a plethoric habit—if she have in some degree recovered her confinement—and if the disease set in with great violence, it may be advisable.

Leeches in numbers proportioned to the severity of the attack, should be applied along the course of the femoral vein to the groins,

abscess in the thigh. The veins, either the femoral or saphena, are inflamed, and contain pus, which is also met with, perhaps, in the absorbents. Within the pelvis we sometimes find an abscess; or the glands there and at the groin are swelled; or the articulations are inflamed and loosened; or there are marks of peritonitis; or after, inflammation of the veins, particularly of the uterus; but frequently that viscus is itself quite healthy. Inflammation also is in many cases found to have existed in the thorax."—*Burns's Midwifery*, p. 610.

[1] "Inflammation of the lymphatics has been ascertained in a considerable number of cases of phlegmasia alba dolens. But this lesion, when it exists, acts a secondary part only in the production of the phenomena."—*Bouillaud, Dict. de Med. et de Chir. Prat. Art. Phlegmasia Alba Dolens.*

[2] "M. Duges has recently proved that 'nevritis' does really form ones of the numerous lesions of this 'complex malady.'"—*Bouillaud, Dict. de Med. et de Chir. Prat. Art. Phlegmasia Alba Dolens.*

or to the calf of the leg, and a poultice applied when they fall off.[1] If decided relief be not obtained, they may be repeated in smaller numbers, once, twice or thrice. (Denman, Dewees, Blundell, &c.)

As the bowels are almost always in some degree disordered, appropriate remedies must be tried. If diarrhœa be not present, purgatives may be given, and we are advised to prefer the saline.[2] I have certainly seen benefit result from small doses of tartar emetic, given along with the cathartic.

Saline effervescing draughts may also be given.

Different statements have been made as to the effect of blisters; some regarding them as specifics,[3] and others, (Dewees, &c.) altogether rejecting them as mischievous. My own experience does not confirm Dr. Dewees's opinion.

Turpentine fomentations are sometimes decidedly useful.

When the pain is severe, or the patient irritable, restless, and sleepless, opiates will be necessary.[4]

The diet should be bland and chiefly farinaceous.

When by these means the acute stage has been terminated, and the constitutional symptoms relieved, we may change our local and general treatment. Gentle support may be afforded to the limb by a light flannel bandage, and slightly stimulating friction employed.

In this stage, the frequent application of small blisters has been especially recommended.[5]

[1] "The application of leeches to the groin, and of cold to the limb, and the repeated use of laxatives and diaphoretics, removed the complaint in the course of a fortnight. The reduction of the swelled limb was aided by a gentle friction after the pain and tenderness had gone off."—*Dr. Bateman's Report of the Carey-street Dispensary, in Edin. Jour.* vol. iii. p. 128.

[2] "In aid of bloodletting, we employ purging to a liberal extent, during the continuance of the active stage of the disease; and for this purpose we prefer the saline cathartics—especially when combined with an equal weight of calcined magnesia."—*Dewees, Diseases of Females*, p. 492.

[3] "What I consider as a specific, is a blister applied to the calf of the leg, immediately on discovering the complaint. The first I apply to the calf of the leg, as the pain is generally most severe in that part, and there is less fear of its not healing than if applied lower. If required, I repeat them every two or three days, not at the same place, but higher or lower, according to the seat of the pain."—*Mr. Sankey's paper in Edin. Journal*, vol x. p. 402.

See also Dr. Wyer's paper in Lond. Med. and Phys. Journal. No. 134; and Ed. Med. and Surg. Journal, vol. xv. p. 156.

[4] "Opiates are also to be given to abate and soothe the general irritability of the habit; and together with these, such medicines as promote the secretion by the skin and the kidneys."—*Denman's Introduction*, p. 509.

[5] "Then, also, but not sooner, it is necessary and proper to support the swelled limb by a slight flannel bandage, drawn gradually tighter, and to use different applications, such as the volatile liniment, or one composed of three parts of liniment: saponis, and one part of tinct. cantharid. and sometimes small quantities of the ung. hydrargyri. The frequent application of small blisters to different parts of the limb has been also then strongly advised, and in many cases with evident advantage. Electricity has been tried; but of its real benefits I am not competent to judge. Certainly many patients have been much relieved by persevering in the use of warm sea-

Tonics may also be given—bark, or quinine and sulphuric acid, will be found the most serviceable.[1]

The diet may be improved—meat may be allowed, and a moderate portion of malt liquor or wine.

If at any time the lochia should be offensive, vaginal injections of tepid milk and water twice a day should be employed.

After some time, air and slight exercise, with sea bathing, will be found to conduce to the perfect restoration of the patient.

CHAPTER XI.

PUERPERAL MANIA. MANIA LACTEA. *Manie Puerperale*, Fr. *Manie und Melacholie der Wocherinnen*, G.

Females may suffer from an attack of mania during gestation, during labour, or after parturition. The two latter cases will occupy our attention in this chapter. The temporary delirium, or mania, which occurs during labour, was, I believe, first recorded by my friend Dr. Montgomery. It appears at two particular periods of the labour—first, as the head passes through the os uteri, and again, at its exit through the os externum. It would appear to be owing to the extreme suffering at these times, acting upon an irritable and nervous temperament. It is very temporary, generally lasting but a few minutes and then subsiding.

The most curious point about it is, that the patient is generally conscious of her incoherence.[2] A lady whom I attended a short

bathing; and they are to be encouraged, but with some caution, to use exercise."—*Denman's Introduction*, p. 510.

[1] "At first we may use saline draughts, but these are not to be often repeated, and must not be given so as to produce much perspiration. In a short time they should be exchanged for bark, sulphuric acid, and opiates, which tend to diminish the irritability. In the last stage we give a moderate quantity of wine. When the pain shifts like rheumatism, bark and small doses of calomel are useful. In every stage the bowels should be kept regular. If he uterine discharge be fetid, it is proper to inject tepid water, or infusion camomile flowers, into the vagina."—*Burns's Midwifery*, p. 612.

Dublin Journal, vol. v. p. 51.

"It comes on suddenly during perfectly natural labour, and most frequently at that particular stage of the process which I have pointed out, (dilatation of the os uteri.) It is not accompanied nor followed by any other unpleasant or suspicious symptom: it occurs perhaps immediately after the patient has been talking cheerfully, and having lasted a few minutes disappears, leaving her perfectly clear and collected, and returns no more, even though the subsequent part of the labour should be slower and more painful. In every instance which came under my observation, the patients were conscious that they had been wandering, and occasionally apologised for any thing wrong they might have said, although they were not aware of what the exact

time ago, and in whom this delirium occurred, assured me that she knew she was talking nonsense, but that she could not resist it.

Puerperal mania, in the usual sense of the term, is by no means a rare disease.[1] It may attack the patient a few hours or days after delivery, and more frequently before the lacteal secretion is fully established, although cases occur at a later period, and even appear to be the result of weaning.[2]

Females of a nervous, irritable temperament, seem peculiarly obnoxious to it, and occasionally those of plethoric habit and of sensitive feelings. It is said to prevail especially during summer.[3]

Causes.—It was formerly attributed to the suppression of the lochia, or to a metastasis of the milk.

More recently it has been attributed to local irritation of the breasts or other parts;[4] to irritation and loss of blood combined;[5] to the peculiar condition of the sexual system;[6] to the disturbances of

nature of their observations might have been."—*Dr. Montgomery's Essay, Dublin Journal*, vol. v. p. 61.

[1] "Cases of puerperal madness, properly so termed, that is, coming on after childbirth, are by no means infrequent. M. Esquirol has related, that among 600 maniacal women at the Saltpetriere, there were fifty-two cases of this description. In another report by the same writer, there were ninety-two similar cases among 1119 insane females admitted during four years into the above-mentioned hospital. M. Esquirol is of opinion that the proportion is still greater in the higher classes of society—since out of 144 instances of mental disorder occurring in females of opulent families, the symptoms had displayed themselves in twenty-one, either soon after childbirth or during the period of lactation. Dr. Haslam enumerates eighty-four instances of puerperal mania in 1644 cases admitted at Bethlem. Dr. Rush, however, reckons only five such cases in seventy received into the hospital for lunatics in Philadelphia."—*Pritchard, Cyclop. of Pract. Med.* vol. ii. p. 867.

[2] "Of ninety-two cases related by M. Esquirol, sixteen became delirious from the first to the fourth day; twenty-one from the fifth to the fifteenth; seventeen from the sixteenth to the sixtieth; nineteen from the sixtieth to the twelfth month of lactation, nineteen after forced or voluntary weaning." —*Pritchard, Cyclop. of Pract. Med. Art. Insanity*, vol. ii. p. 870.

[3] Campbell's Midwifery, p. 344.

[4] "In some cases it has, however, been evidently caused by irritation of another part; as when the breasts have been inflamed, or an abscess had been formed; and at the time of first suckling or weaning the child, seven or eight months after delivery; but in every case the disorder has been occasioned by an uncommon irritation of one of these parts, spreading its influence to the brain, though without any reference to former disposition or habits, acquired or hereditary."—*Denman's Introduction*, p. 500.

[5] "I believe this disease to result in general from all the circumstances following parturition combined, but chiefly from the united influences of intestinal irritation and loss of blood." "Puerperal mania is seldom of an inflammatory character, and it is especially to be treated by those measures which are suited to the mixed cases of intestinal irritation and exhaustion." "I am inclined to attribute much more to the combined influence of irritation and exhaustion, than to the mere state of the sexual system which occurs after delivery."—*Dr. M. Hall, Comment. on Diseases of Females*, p. 251.

[6] "There is, therefore something in the state of the constitution, induced by lying-in, or weaning, capable of producing the disease in predisposed constitutions." "In my former paper on this subject, I endeavoured to express

the vascular system, occasioned by delivery,[1] (Jenner;) or to the effects of suckling. (Good.)

No doubt also, it may be partly attributable to the shock which the nervous system receives at the time of labour.

Hemorrhage has been enumerated among the predisposing causes, and the exciting causes are said to be fright,[2] anger, sorrow, or any species of mental emotion, disordered digestion, &c.

There is no reason to believe that it arises from inflammatory action in the brain.[3]

Symptoms.—The attack may either come on suddenly or gradually;[4] in the former case, the patient may perhaps awake out of sleep in a fright, and commence talking incessantly and incoherently; in the latter, she may have complained of headache for some days—of vigilance—or even entire sleeplessness.[5] The loss of rest produces exhaustion and irritability, and her mind becomes depressed

it by saying, that peculiar state of the sexual system which occurs after delivery."—*Dr. Gooch on Diseases of Women*, p. 127.

[1] "The conversions or successive changes in the temporary local determinations of the blood, which the constitution under such circumstances (of recent delivery) sustains and requires, appear sufficiently to account for the morbid susceptibility of the brain."—*Pritchard, Cyclop. of Pract. Med. Art. Insanity*, vol. ii. p. 870.

[2] "All women soon after delivery are either more irritated, or more subject to irritation, than they perhaps are at any other time; and hence chiefly arose the necessary custom of keeping them quiet, and secluding them for a certain time from the chance of meeting such occurrences as might disturb them. I have known more than one instance of a lying-in woman, in a very irritable state, but with perfect composure of mind, becoming at once deranged by some fright or mischief apprehended to herself or child; or from some dismal story related to her, who might have escaped, had she been managed with circumspection."—*Denman's Introduction*, p. 501.

[3] "These cases, if fair specimens of puerperal insanity, lead straight to the conclusion, that the disease is not one of congestion or inflammation, but one of excitement without power."—*Gooch on Diseases of Females*, p. 145.

[4] "It usually appears rather suddenly, the patient awakening, perhaps, terrified from a slumber; or it seems to be excited by some casual alarm. She is sometimes extremely voluble, talking incessantly, and generally about one object—supposing, for instance, that her child is killed or stolen; or although naturally of a religious disposition, she may utter volleys of oaths with great rapidity. In other cases, she is less talkative, but is anxious to rise and go abroad. It is not indeed possible to describe the different varieties of incoherence; but there is oftener a tendency to raving than melancholy."—*Burns's Midwifery*, p. 614.

[5] "She will be found to have recently slept imperfectly, and in insufficient quantity to refresh her exhausted powers. This state of imperfect sleep gradually advances to that of more or less perfect vigilance, until at length it is ascertained that the function has become totally suspended. In the mean time her spirits are observed to be unusually depressed, and the temper unusually peevish and irritable. In the progress of her malady, some supposed cause of discontent is magnified into a source of much unhappiness, or of continual vexation, and of garrulous loquaciousness. After the total cessation of the power of sleeping, a partial alienation of the reasoning faculty takes place, and gradually extends its influence from the primary perversion, to other subjects, until at length the whole chain of the power of association becomes disrupted."—*Davis's Obstetricy*, vol. ii. p. 1201.

and fretful. In this condition, some fancied inattention or unkindness, or some annoyance, fixes itself as it were in her mind, and from talking constantly of it, she soon proceeds to talk irrationally about it. Once the mental integrity is broken, she ceases to be rational on any point except for a few moments, and in fact becomes insane.

As to the insane phenomena, they do not differ under these circumstances, from insanity generally, and therefore I need not enter upon them.[1]

There are two distinct classes of cases—those which are accompanied by fever and quick pulse, and those which are not; and this is, perhaps, the most important point in the history of the discase.

We find the former class of patients complain of headache, and throbbing in the head; the face is flushed, the eye unsettled and intolerant of light, the raving is incessant, and the patient difficult to restrain.[2]

In the latter we find the pulse but little quicker than usual, and weak, the surface natural,[3] and very little headache. The tongue

[1] "There is no peculiarity in the phenomena of puerperal madness, by which the disease is distinguished from other examples of insanity."—*Pritchard, Cyclop. of Pract. Med. Art. Insanity*, vol. ii. p. 867.

[2] "The individual soon complains of severe headache, and unusual throbbing within the cranium; the face is flushed, the countenance presents an unsettled aspect, there is fearful rolling of the eyes, and intolerance of light and noise; there is hurried and incessant talking; indisposition to sleep. The foregoing symptoms are almost constant attendants, but as the disease advances, the pain of head extends along the occiput and spine: the patient has frightful dreams, and the memory becomes impaired; the countenance is wild; the eyes are in perpetual motion, and turgid; the temporal arteries throb strongly; and there is furious delirium. From being full, the pulse becomes small, hard, and always quick; the thirst is urgent; tongue dry and furred; bowels torpid, and urine suppressed. As in other severe diseases of childbed, so in this, the lochia are partially, and the milk entirely, suppressed."—*Campbell's Midwifery*, p. 344.

"The attack is often attended with febrile symptoms. This is the case especially, as Dr. Burrows has observed, if it take place about the fourth or fifth day, when the secretion of milk is producing a new excitement. The state of the pulse is the most important symptom, in reference to the nature and treatment of the case, as well as to the prognostic which is to be formed of its result."—*Dr. Pritchard, Cyclop. of Pract. Med., Art. Insanity*, vol. ii. p. 867.

[3] "The eye has a troubled appearance; the pulse, when there is much nervous irritation, or bodily exertion, is frequent, but it is not, in general, permanently so, though it is liable to acceleration; the skin is frequently at first hot, the tongue white, the secretion of milk is often but not always diminished, and the bowels are costive, unless the patient has been previously affected with diarrhœa. The face is rather pale, and the expression is that of trepidation, combined with imbecility. There is seldom permanent headache, often neither pain nor giddiness; but these symptoms are sometimes produced pretty severely, by attempts to go to stool, if accompanied by tenesmus; or by efforts to void urine in stranguary."—*Burns's Midwifery*, p. 614.

"The pulse is found usually more frequent than natural, but generally, nevertheless, of a subdued character with respect to strength." "With this

is generally white and loaded, the stomach disordered, and the bowels confined.

Terminations.—1. It may cease suddenly after twenty-four hours.[1]

2. It may continue an indefinite time, and the patient ultimately recover.

3. It may terminate in death. This is almost peculiar to those cases where the pulse is quick, and fever is present.[2]

4. Few patients continue in a state of permanent insanity, in whom it occurs after delivery.[3]

Treatment.—It seems to be pretty generally agreed, that there are but few cases which require venesection, and that in those cases it should be used most cautiously.[4]

state of the circulation, we frequently find associated a temperature of the body, scarcely raised above that of blood heat, during a state of health. But to this condition we should mention an exception, either of all or of some part of the head; whilst, however, this partial temperature is scarcely ever raised more than one or two degrees above that of other parts of the body."—*Davis's Obstetricy*, p. vol. ii. p. 1201.

[1] "Perhaps for this reason, this disorder, in some instances, ceases in twenty-four hours; in others it continues only for a few days; in some a few weeks; and in others for several months. But the instances of its continuing more than six months are very rare."—*Denman's Introduction*, p. 501.

[2] "Mania is not an uncommon appearance in the course of the month, but of that species from which they generally recover. *When out of their senses, attended with fever, like paraphrenitis, they will in all probability die;* but when without fever, it is not fatal, though it (*i. e.* fever) generally takes place before they get well. I have had several private patients, and have been called in, where a great number of stimulating medicines and blisters have been administered, but they have gone on as at another time, talking nonsense, till the disease has gone off, and they have become sensible. It is a species of madness they generally recover from, but I know of nothing of any singular service in it."—*MSS. Lectures of Dr. W. Hunter, quoted by Dr. Gooch.*

"It has been asserted in very unqualified terms, that women who become maniacal in childbed always recover. The opinion, I presume, extends only thus far, that if they live they always recover their faculties, the distemper proceeding from disordered functions, and not from an organic disease; but I have seen several women die during the maniacal state, and not long after the accession of the disorder. Their death has sometimes appeared to be owing merely to the vehemence and continuance of the exertions, which it seemed impossible to moderate."—*Denman's Introduction*, p. 501.

"Out of the ninety-two cases mentioned by M. Esquirol, of which fifty-six terminated in recovery, there were, as we have observed, six deaths; and in Dr. Burrows's table of fifty-seven cases, there were ten deaths." "The proportion of deaths given by M. Esquirol's table may be somewhat too low; but we are inclined to believe that the result afforded by that of Dr. Burrows, gives a greater mortality than the average number afforded by general experience."—*Pritchard, Cyclop. of Pract. Med., Art. Insanity*, vol. ii. p. 868.

[3] "Puerperal madness terminates, in a great proportion of cases, either in death, or in the recovery of reason. Few instances, comparatively, become cases of permanent insanity."—*Pritchard, Cyclop. of Pract. Med., Art. Insanity*, vol. ii. p. 867.

[4] "Bleeding, if advised in any degree, must be performed with a sparing

Leeches to the forehead or temples is a better mode of abstracting blood, if it be necessary.

If the loss of blood do no good, it is quite certain to do mischief, by weakening the patient, and increasing the irritability.

Some benefit will be derived from shaving the head, and applying cold lotions, or a bladder of pounded ice.

But more decided relief seems to be afforded by thoroughly freeing the bowels[1] by purgatives and enemata, and then administering an opiate, when not counter-indicated by the state of the pulse.[2]

Emetics have been recommended, (Denman,) but their value seems doubtful, unless there be a necessity for evacuating some offensive matter in the stomach.[3]

hand; and if it be a fact, which I am assured it is, that copious bleedings are extremely prejudicial—but little abating the disorder, even for the present,—and if the patient survive, increasing, and rendering it more deeply rooted and permanent afterwards."—*Denman's Introduction*, p. 503.

"With regard to bloodletting, the result of my experience is this, that in puerperal mania and melancholia, and also in those cases which more resemble delirium tremens, bloodletting is not only seldom or never necessary, but generally almost always pernicious." "I would lay down this rule for the employment of bloodletting—never to use it as a remedy for disorder in the mind, unless that disorder is accompanied by symptoms of congestion or inflammation of the brain, such as would lead to its employment, though the mind were not disordered."—*Gooch, Diseases of Women*, p. 162.

[1] "In this form we open the bowels with a purgative, and preserve them afterwards right by suitable laxatives. We keep the surface gently moist, by means of saline julap, and, presently, allay irritation, with liberal doses of camphor."—*Burns's Midwifery*, p. 615.

"When the stools are very unhealthy in colour and odour, one or two active purges ought to be given, and a moderate action in the bowels kept up by such purges as empty the alimentary canal, without drawing fluid from the circulation—such as the compound aloetic pill, or the compound decoction of aloes. Where, however, the gastric symptoms are very slight, and the powers of the system much exhausted, active and prolonged purging is injurious; the utmost that is necessary and right, is a dose of the aloetic pill or decoction, sufficient to move the bowels plentifully once a day."—*Gooch, Diseases of Women*, p. 164.

[2] "This view is the more important, because it directly suggests the proper mode of treatment, which consists in restoring the system to a state of due health by every means in our power, whilst we adopt every measure which can soothe and allay the morbid irritability of the nervous system."—*Dr. M. Hall on Diseases of Females*, p. 253.

"The most valuable remedies in the treatment of puerperal mania are narcotics." "If the head is hot, the cheek flushed, and the patient thirsty, they ought to be postponed; but if these symptoms have been removed, or are not present, sedatives ought to be given, and the most efficient first." "For this purpose, twenty minims of the sedative solution of opium may be given at once, and repeated in two hours, if the patient is not asleep; even a third dose may be given in two hours more, if the two first doses have failed; but the cases in which opium has been most successful, have required at most two full doses. When sleep has once been procured, small doses, such as five or ten minims, should be given at intervals of six hours."—*Gooch on Diseases of Women*, p. 165.

[3] "If the powers of the constitution are not low, and the gastric symptoms are very marked, namely, a foul tongue, an offensive breath, a yellow eye;

Antispasmodics—especially camphor—are said to be very useful. (Kinneir.)

Diffusible stimuli, in combination with the opiate, have been found very beneficial. (Hall.)

Tartar emetic, in small doses, will be of use, especially in cases where the pulse is quick, and may probably supersede the necessity for bloodletting.

Tonics will be beneficial when the mania subsides.

The utmost quiet will be necessary. The diet should be bland and nutritive.

Great skill must be exercised in the moral management of the patient, so as not to increase the irritation. There is more to be gained by the appearance of yielding to the wishes or whims of the patient, than by resisting them.[1]

Some authors recommend that the patient should cease nursing (Waller,[2]) as the suckling may prolong the irritation.

"The first signs of recovery are to be observed in the abatement of the fits of agitation, in their violence, or the return of the right understanding—though of short intervals. It seems that peculiar address is required to foster any tendency to their natural habits, and by a sensible and wise management of these tendencies, the recovery may be much promoted."[3]

CHAPTER XII.

EPHEMERAL FEVER, OR WEID.

This is a short attack of fever, to which females are especially liable during the early part of their convalescence, though it may occur at a later period.

Females of sensitive constitutions are the most obnoxious to it.

Causes.—The most frequent cause is the impression of cold, perhaps on rising from bed, or changing the room, &c.

an emetic, not of antimony, but of ipecacuanha, may be given."—*Gooch*, p. 163.

[1] "The constant attendants on the patient ought to be those who will control her effectually, but mildly—who will not irritate her, and will protect her from self-injury. These tasks are seldom well performed by her own servants and relatives." "She should never be left alone, and every thing should be carefully removed with which self-injury can be effected—such as cutting instruments, garters, handkerchiefs, towels. The windows of her chamber ought to be carefully secured. With regard to the removal of her husband and relations, this also will be a question, if the disease threatens to be lasting; it is generally right."—*Gooch on Diseases of Women*, p. 158.

[2] Denman's Introduction, p. 503—note.

[3] Ibid, p. 505.

Indigestion, or irregularity of the bowels, may also give rise to it. Fatigue, mental agitation, and want of rest, are also enumerated among the exciting causes.

Symptoms.—The attack commences by general uneasiness, palpitation, and shivering,[1] with headache, pain in the back and limbs, soreness of the skin, thirst, rapid and sometimes irregular pulse, &c.

To this succeeds a well marked hot stage, with flushed face, throbbing temples, pain over the eyes, rapid full pulse, pain of the breasts, soreness of the abdomen, &c. and it terminates in a profuse sweat, which removes the fever, and relieves the other symptoms.

The tongue is coated, the stomach is often disturbed, and the bowels confined.

During the paroxysm, the fever often runs very high, and the distress is proportionally great. Occasionally the mind is confused and distressed; and in some cases the patient is delirious.

For the time, the secretion of milk is diminished or suspended, and the lochia also—but they return after the paroxysm.

The fit is generally completed in twenty-four hours, always in forty-eight; and if properly treated, it seldom returns. If neglected, however, it may assume the form of an intermitting, or continued fever.[2]

Unless it assume this character, it is of very little consequence, and very easily managed.

Diagnosis.[3]—From the violence with which it commences, it may easily be mistaken for puerperal fever; but the cessation of the paroxysm after some hours, and the absence of marked abdominal tenderness, will generally enable us to distinguish it. Indeed, the peculiar violence with which it commences, is itself more characteristic of weid than puerperal.

Treatment.—During the cold stages, hot bottles and warm bedclothes may be applied, so as to relieve the distress. Warm drinks and cordials may also be given.

During the hot stage, a comfortable quantity of clothing must be continued, and diaphoretics given, so as to favour perspiration; and

[1] "On or before the approach of the disease, the patient is observed to yawn and stretch herself greatly, and to appear very languid. To this succeeds a sensation of cold, first between the shoulders, and thereafter along the spine; and at last it becomes general over the whole body, attended with pain in the head and large joints. Sometimes a sense of soreness is felt in the uterine region, and if the lochial discharge be present, both it and the milk are diminished in quantity."—*Campbell's Midwifery*, p. 341.

[2] "It consists of a cold, hot, and a sweating stage; but if care be not taken, the paroxysm is apt to return, and we have either a distinct intermitting fever established; or sometimes, from the co-operation of additional causes, a continued and very troublesome fever is produced."—*Burns's Midwifery*, p. 572.

[3] "The suddenness of the attack, the great irregularity of the pulse, the absence of all local pain, except that of the head, the intensity and regularity of succession of the different stages, will distinguish this from every other puerperal affection."—*Campbell's Midwifery*, p. 341.

during the sweating stage we must guard against cold, and diminish the clothing very gradually.

As for purgative medicines, which are necessary, I have found the combination of salts, senna, and tartar emetic, the most useful; but any other purgative may answer the purpose. If the tongue be foul, and the stomach loaded, an emetic may be advisable. (Burns.)

Very rarely will it be necessary to take away blood, and then only if there be much local pain. A few leeches to the head, or to the breasts if they be painful, may be of use; but in the majority of cases they are unnecessary.

We should carefully examine the state of the uterine system, as irritation may otherwise go on unsuspected, and be the cause of much subsequent distress.

The diet may be nutritious after the paroxysm is over, and even mild tonics be given if necessary. Dr. Campbell recommends five-grain doses of camphor, four or five times a day for some days, to allay nervous irritability.[1]

Great care must be taken, after the fever has terminated, to avoid all occasion of cold, or any cause which may reproduce the attack.

CHAPTER XIII.

FEBRIS MILIARIS. MILIARY FEVER. *Millet. Fièvre Miliare*, Fr.

This disease is described by older authors as one of the formidable epidemic diseases of childbed.[2] It is now rarely met with, except as a trifling affection.

Dr. Bateman, and others, conceive this difference to arise from the different way in which patients are managed during convalescence.

The disease does occur sometimes, however; but is "perhaps invariably symptomatic—being connected with some feverish state of the body, previously induced."[3] It may accompany weid, or milk fever, and even some forms of puerperal fever.[4]

[1] "In the treatment, we have two indications in view; *first*, to conduct the disease regularly through its stages; and *secondly*, to restore the tone of the system."—*Campbell's Midwifery*, p. 342.

[2] See White on Lying-in Women.

[3] Bateman's Synopsis, p. 245.

[4] "Miliary eruption also occurs during childbed, as a symptom connected with other puerperal diseases. It often accompanies the milk fever, or the protracted weid, when the perspiration is injudiciously encouraged, and this is by far the most frequent form under which the febris miliaris appears. It never alleviates the symptoms. It may also accompany fevers connected with a morbid state of the peritonæum or brain, which generally prove fatal,

It is more frequent in women of weak, debilitated constitutions, and generally occurs between the fifth and twelfth day after delivery.[1]

Causes.—It has been attributed to metastasis of the milk, or to putrescency; and to both, doubtless, with equal correctness.

The eruption is merely a symptom accompanying a febrile attack, and depending, probably, upon the excessive secretion of the skin. The qualities of the perspiration may perhaps have something to do with the production of the eruption.[2]

M. Capuron doubts this connection between the eruption and the perspiration.[3]

Dr. Burns thinks that the disease may be occasionally idiopathic.[4]

Symptoms.—In the cases we most frequently see, and which approach the nearest to a distinct disease, the attack commences with langour, sickness, and chilliness, with a hot skin and a quick pulse. To this stage succeeds reaction—the patient is oppressed, in low spirits, complaining of a weight at the chest, with a quick pulse, considerable heat of skin, and great perspiration of an acid odour. The eyes are dull and heavy; there is a ringing in the ears; the tongue is foul, with red edges; the lochia and milk suppressed or diminished, and the skin feels rough. Occasionally aphthæ are observed in the fauces.

After these symptoms have continued for a few days, the eruption appears, in form of "minute round vesicles, about the size of millet seeds, surrounded by a slight inflammation or rash." "It appears most abundantly upon the neck, breast, and back—sometimes in irregular patches, and sometimes more generally diffused,

death being preceded by vomiting of dark-coloured fluid."—*Burns's Midwifery*, p. 579.

[1] "General relaxation predisposes to miliary fever; hence the reason why it is a frequent sequela of weid. Impure over-heated air, stimuli, and rich food; neglecting the bowels, and personal cleanliness, are frequent exciting causes."—*Campbell's Midwifery*, p. 343.

[2] "Therefore, as the miliary eruption is never produced without sweat, and as neither the one nor the other can be said to be strictly critical, may we not conclude that the eruption is occasioned by the cuticular secretions being increased by warmth and relaxation, and of course rendered more acrid—so that by lodging upon the skin, and communicating with the external air, they must soon acquire a putrid state, even if the patient had no sign of putrescency before?"—*White on Lying-in Women*, p. 51.

[3] "Dans la Haute-Auvergne, les femmes du peuple, qui n'ont pour nourriture que le lait et les vegetaux les plus doux, qui restent à peine vingt quatre heures au lit, et qui s'exposent aux injures de l'air, sont affectées de l'eruption miliare. Or il est certain, qu'elle ne tient alors ou à un regime echauffant, ou à des sueurs excessives."—*Capuron, Mal. des Femmes*, p. 566.

[4] "Some have considered the eruption as altogether dependant on the perspiration; others consider it as, in many cases, idiopathic; and both, perhaps, at times are right. We can only consider the disease as idiopathic, when the eruption mitigates the symptoms, when the fever goes off, as the pustules arrive at maturity—and there is no other puerperal diseases present, acting as an exciting cause."—*Burns's Midwifery*, p. 578.

and remains on those parts during several days: on the face and extremities it is less copious, and appears and disappears several times, without any certain order. The vesicles, on their first rising, being extremely small, and filled with a perfectly transparent lymph, exhibit the red colour of the inflamed surface beneath them; but in the course of thirty hours, the lymph often acquires a pearly opacity, and the vesicles assume necessarily a pearly or white appearance."[1] This has led to the distinction of white and red miliary eruption.

After a few days the vesicles dry up, and the skin desquamates.

The eruption affords no crisis to the fever, and seldom any relief to the symptoms.

If the fever and sweating continue, the patient may have frequent attacks of the eruption.

Some cases of the eruption are met with, when there is little or no fever at all,[2] and they speedily recover.

The usual form of the disease is neither fatal nor difficult to cure; though we read in authors of malignant epidemics of miliary fever, and undoubted instances of death.[4] But in truth, the fatality lay in the fever, of which the miliary eruption was only an accidental symptom,[4]—just as when it has occurred after a surgical operation, or with puerperal peritonitis.

[1] Bateman's Synopsis of Cutaneous Diseases, p. 246.

[2] "To what has been said, I must beg leave to add my testimony, that I have frequently seen in puerperal women miliary eruptions, both of the red and white kind, without any fever supervening, and totally unattended with danger; and I have seen all the symptoms of the miliary fever (as they are generally described by authors) except the eruption; and yet the disorder has terminated happily, and in a short time, without that or any other particular crisis."—*White on Lying-in Women*, p. 39.

[3] "When I began to practise midwifery, a midwife (since dead) had for a long time been in possession of great practice among all ranks of women, and in other respects was tolerably successful; but a remarkable number of women under her care were affected with the miliary fever, which proved fatal to many—particularly to the wives of several of our principal tradesmen; and became so alarming and notorious, both in this neighbourhood, and in distant parts of the country, as to acquire the name of the Manchester fever."—*White on Lying-in Women*, p. 41.

"A very ingenious physician at Chester informed me that the miliary fever had been generally imagined to be endemic in that city and neighbourhood, for thirty years before he resided there, and had carried off numbers of the inhabitants; that the fever was frequently of a long duration; that he knew one person who recovered, after having successive crops of miliary eruptions for three months. That another physician of the place had informed him that he had a patient who lay ill of the same fever for six months, and died of it at last."—*White on Lying-in Women*, p. 45.

[4] "Although most frequently this eruption is simple and benign, it may nevertheless be combined with other affections, more or less dangerous, as intestinal disturbance, inflammatory, gastric, bilious, and above all, mucous fever, sometimes with adynamic, or putrid, or ataxic fever, or with inflammation of mucous membrane, as angina, catarrh, &c. It is to these affections that we must refer the miliary fevers observed by authors, especially the species which Levert calls malignant, and which exhibit adynamic or ataxic symptoms."—*Capuron, Mal. des Femmes*, p. 567.

Treatment.[1]—The proper management of women in childbed, will generally prevent the occurrence of these cases altogether.

But if we are called to one of the slight febrile kind I have described, a gentle emetic may arrest its course.

If not, but little medicine will be necessary. The bowels should be freed, and acid drinks (unless counter-indicated) given.

The room should be well cooled and ventilated, and only light bed-clothing allowed.

The diet should be bland and nutritious. The surface may be sponged with tepid water, and the linen frequently changed.

When the febrile access has subsided, bark and diluted sulphuric acid should be given, with a better diet.

If there be aphthæ in the mouth and fauces, we may use borax and honey, or acid gargles, until they are removed.

When the miliary eruption is an accompaniment of more serious fevers or local affections, it is the latter to which our attention and treatment is to be directed; and we may be satisfied, that in proportion as we succeed in relieving the primary disease, so the secondary affection will disappear.

CHAPTER XIV.

SORE NIPPLES. *Erosion du Mammelon*, Fr. *Wundseyn der Brustwarzen*, G.

This is a very frequent and troublesome occurrence, and far more painful than would be supposed.

It is more frequent with first children, but some women suffer from it after each confinement.

It comes on generally after two or three days' suckling, and continues for an uncertain time.

Causes.—In the majority of cases, it is simply the reiterated application of the child which causes it, by removing the sebaceous secretion—so that the skin, when dry, contracts, slightly hardens, and cracks. This progress is aggravated by a slight degree of inflammation.

But sore nipples may be owing to the state of the child's mouth, as is frequently seen when the child suffers from aphthæ; and on the

[1] "In the *first* place, we order the ablution of the body every morning with tepid water; *secondly*, we direct the bowels to be regulated by means of compound jalap, or magnesia and rhubarb; *thirdly*, some tonic must be prescribed, as the diluted sulphuric acid, or the sulphate of quinine; and *fourthly*, the apartment to which the patient is confined, requires to be freely ventilated, and a load of bed-clothes avoided."—*Campbell's Midwifery*, p. 343.

other hand, the discharge from the nipple may inflame and excoriate the child's mouth.

Symptoms.—At first the nipple and areola are observed to be dry, rough, and harsh; then a great number of minute cracks may be seen; or the surface becomes excoriated, and pours out a serous discharge, which in some cases is acrid, and spreads the excoriation to the surrounding skin.

Or the nipple may exhibit deeper fissures, dividing it into two or three portions. Lastly, in some cases the nipple becomes ulcerated, and part, or nearly the whole destroyed.

Each attempt at suckling makes the nipples worse for some time, and occasions them to bleed.

The torture to the patient is very great, and it requires all her fortitude to persist in nursing, at the cost of so much suffering.

Treatment.—To prevent this disorder, the nipples should be washed with soap and water, and dried, and afterwards bathed with spirit and water, night and morning, during the last month of pregnancy. In many cases this will be successful.

"A combination of white wax and butter is a popular remedy, and is often useful. Stimulating ointments, such as ung. hyd. nit., diluted with axunge, are sometimes of service; or the parts may be touched with burned alum, or nitrate of silver, or dusted with some mild dry powder."[1]

When excoriation or "chapping" has occurred, spirit lotions may be applied, or one formed of sulphate of alum, zinc, or copper, acetate of lead, &c. dissolved in rose water; but the one I have found most effectual is a weak solution of nitrate of silver, to be applied after each time of suckling—care being taken to wash the nipple previous to the next application of the child.

Various mechanical means have been contrived to cure the disease.

Nipple shields, of wood, ivory, or silver, may be procured, which, intervening between the child's mouth and the nipple, will often relieve the irritation altogether. But in many cases the child cannot draw the milk through them, and then we may have recourse to "calves' teats," properly prepared, or to a piece of chamois leather, shaped and protruded in the form of a nipple, and pierced with many holes.

If any of these plans succeed, the nipple will heal in a few days, and the child may be applied to it.

Feeding the child two or three times in the day, or giving it to another person to nurse, will facilitate the cure, provided we do not allow the milk to accumulate too much—in which case, inflammation may be excited, and terminate in abscess.

In very few cases is it necessary to give up suckling. Even if our remedies fail, the irritation will generally subside in a fortnight or three weeks.

[1] Burns's Midwifery, p. 628.

CHAPTER XIV.

INFLAMMATION AND ABSCESS OF THE BREAST. *Inflammation et Abscēes des Mammelles*, Fr. *Entzündung der Brüste*, G.

Females are obnoxious to inflammation of the breast after each pregnancy, and at any period of suckling; the more especially with first children, and during the first three months of nursing.

Causes.—The irritation and congestion which takes place for the secretion of milk, varies in amount. If these be within certain limits, the secretion takes place with slight feverishness for a day or two; if they exceed these limits, the secretion is arrested; the breasts become hot, tense, and painful, and unless the usual means reduce this extreme irritation, it will run on into inflammation and abscess.[1] This excessive congestion may be regarded as the most frequent cause of mammary abscess, soon after delivery, and with first children.

Exposure to cold, mental emotion, moving the arms too much at the time the breasts are so much enlarged, are all said to give rise to it.

Inflammation may extend itself from the nipples to the deeper tissues, as already mentioned.

Symptoms.—The severity of the symptoms will depend upon the depth and extent of the inflammation. When the subcutaneous cellular tissue and the skin alone are involved, there will be some local pain and soreness, with a circumscribed hardness and tension, and a flush of inflammation upon the skin.

But when the fascia, or gland, is involved, the pain is very severe, extending to the axillæ—the swelling considerable, the tension great, and the constitution suffers proportionably. The pulse is quick and full, the skin hot, there is headache, thirst, sleeplessness, &c. The skin covering the inflamed part may be of a uniform red, or red in patches. If the gland be inflamed, the breast has a nodulated feel, as if it consisted of several large tumours.[2]

[1] "Some have the breasts prodigiously distended, when the milk first comes, and the hardness extends even to the axillæ. If, in these cases, the nipple be flat, or the milk do not run freely, the fascia, particularly in some habits, rapidly inflames. Others are more prone to have the dense substance, in which the acini and ducts are imbedded, or the acini themselves inflamed."—*Burns's Midwifery*, p. 623.

[2] "The inflammation may affect the mammary gland itself, or be confined to the skin and surrounding cellular substance. In the latter case, the inflamed part is equally tense; but when the glandular structure of the breast is also affected, the enlargement is irregular, and seems to consist of one or more tumours, situated in the substance of the part. The pain often extends to the axillary glands. The secretion of milk is not always suppressed when the inflammation is confined to the integuments; and suppu-

The secretion of milk is, at least for a while, suspended; but it will take place after the acute stage has somewhat subsided.

After the inflammation has continued some time, suppuration takes place, and the matter makes its way to the surface. This occurrence is marked by shivering, followed by heat and perspiration, and a sense of fluctuation in the tumour, which is prominent and smooth.[1] The pointing is generally in the neighbourhood of the nipple.[2] By degrees the intervening substance is absorbed, and the cuticle giving way, the matter is evacuated.

The matter of superficial abscesses is simple, or, as it is called, "laudable" pus; but when the abscess is more extensive, sloughs of cellular tissue and fascia are discharged.

In a healthy person, when the matter has been completely evacuated, the abscess soon heals up, leaving only a degree of hardness for some time.

Such is the general course of the disease; but there are some important variations. "It sometimes happens," says Dr. Burns, "if the constitution be scrofulous, the mind much harrassed, or the treatment at first not vigilant, that a very protracted and even fatal disease may result. The patient has repeated and almost daily shivering fits, followed by heat and perspiration, and accompanied with induration or sinuses in the breasts. She loses her appetite, or is constantly sick. Suppuration slowly forms, and perhaps the abscess bursts; after which the symptoms abate, but are soon renewed, and resist all internal and general remedies. On inspecting the breast, at some point distant from the original opening, a degree of œdema may be discovered—a never-failing sign of deep-seated matter there; and by pressure, fluctuation may be ascertained. This may become distinct very rapidly, and therefore the breast should be carefully examined, at least once a day. Poultices bring forward the abscess, but too slowly to save the strength, and therefore the new abscess, and every sinus which may have already formed or existed, must be at one and the same time freely and completely laid open; and so soon as a new part suppurates, the same operation is to be performed. If this be neglected, numerous sinuses form, slowly discharging fœtid matter, and both breasts are often thus affected. There are daily shiverings, sick fits, and vomiting of bile, or absolute loathing at food; diarrhœa, and either

ration is said to come on more quickly than in the affections of the mammary gland itself."—*Cooper's Surgical Dictionary*, p. 945.

[1] "A particular prominence and smoothness are observed at one part of the tumour, with a sense of fluctuation, from the presence of matter. The constitution is also highly irritated, which is evinced by the occurrence of shivering, succeeded by heat, and profuse perspiration. Over the most prominent part of the swelling, the cuticle separates, ulceration follows in the cutis, and the matter becomes discharged through the aperture thus produced."—*Sir A. Cooper's Illustrations of Diseases of the Breast*, p. 7.

[2] "The matter is sometimes contained in one cyst or cavity, sometimes in several; but the abscess generally breaks near the nipple."—*Cooper's Surg. Dictionary*, p. 945.

perspiration, or a dry, scaly, or leprous state of the skin; and sometimes the internal glands seem to participate in the disease, as those of the mesentery; or the uterus is affected, and matter is discharged from the vagina. The pulse is frequent, and becomes gradually feebler—till, after a protracted suffering of some months, the patient sinks."[1]

Treatment.—The first *indication* is to subdue the inflammation, and so prevent the formation of an abscess. For tthis purpose, the patient may be bled if the fever run high: or a number of leeches may be applied, and repeated if necessary, followed by a large soft poultice, or fomentations.

When the bleeding has ceased, the poultice or fomentations may be continued;[2] or an evaporating cold lotion substituted.

The bowels should be briskly purged by saline medicines, and their effect is much increased if tartar emetic, in moderate doses, be joined with them.[3] Indeed, this medicine has a more powerful effect in abating inflammation of the breast than any I have ever tried.

The diet should be bland, and chiefly fluid. The milk should be gently drawn away at intervals, and the breast supported by a sling.

When we find that our efforts are unavailing to prevent the formation of matter, the second *indication* must be fulfilled. We must facilitate it as much as possible, and by no means can it be done more effectually, than by constant poulticing—changing the poultice three or four times a day.

Opium alone, or in combination with salines, should be given, to lessen the pain and induce sleep.

There is some difference of opinion as to the propriety of opening the abscess when the matter is detected. My own experience coincides with Cooper's rule:—"Perhaps, as a general rule, the surgeon should never wait for an abscess of the breast to approach

[1] Burns's Midwifery, p. 625.

[2] "A convenient and simple mode of applying warmth, is to immerse a wooden bowl in hot water, and having wrapped some flannel around the breast, place it in the bowl. By this means, an effectual and equable warmth may be kept up for a considerable length of time."—*Earle, London Med. Gazette*, vol. x. p. 153.

[3] "I have been in the habit of combating this affection in a way first communicated to me by my friend, the late Mr. Gregory, who employed it with great success in the Coombe Lying-in Hospital. The remedy to which I allude is tartar emetic, whose power of controlling inflammatory affections of the breast would lead one to imagine that it excited a specific action on the mammary gland. On the accession of inflammatory symptoms in the breast, after purging the patient, I administer this medicine in doses of one sixteenth of a grain, repeated every hour, so as to induce slight nausea. It is never my object to cause free vomiting; and if this should occur, I omit the medicine for an hour or two, and then recommence its use at longer intervals. In ordinary cases, I usually find, after twenty-four hours, that the pain and fever are mitigated, and the breasts are smaller and softer."—*Essay by Dr. Beatty, Dublin Journal*, vol. iv. p. 340.

the surface, but make an opening as soon as the slightest degree of fluctuation is perceptible; for if this be done, and the abscess is not very superficial, the matter will spread, and form sinuses in different directions.[1]

When quite superficial, a longer delay may be allowed; but I am quite satisfied that it is better to open them, than to allow them to open spontaneously.

After the matter is discharged, the diet may be improved; and if considerable discharge continue, tonics may be necessary.

The opiate at night may be continued for a short time, and then omitted.

If the abscess be small, the child may suck the affected breast; but if large, it had better be artificially drawn, and the infant confined to the other breast. (A. Cooper.)

In some cases the child must be removed altogether, as the suckling may lead to abscess in the sound breast. (Earle.)

When sinuses form, the only remedy is to lay them all open. (Hey.) It will require care to prevent the patient sinking. Wine, bark, and good diet, will be necessary.

[1] Cooper's Surgical Dictionary, p. 946.

"If the abscess be quick in its progress; if it be placed on the anterior surface of the breast; and if the sufferings which it occasions are not excessively severe, it is best to leave it to its natural course. But, if, on the contrary, the abscess in its commencement is very deeply placed—if its progress be tedious—if the local sufferings be excessively severe—if there be a high degree of irritative fever, and the patient suffer from profuse perspiration, and want of rest, much time is saved, and pain avoided, by discharging the matter with a lancet."—*Sir A. Cooper on Diseases of the Breast*, p. 10.